

FLIGHT

First Aero Weekly in the World.

A Journal devoted to the Interests, Practice, and Progress of Aerial Locomotion and Transport.

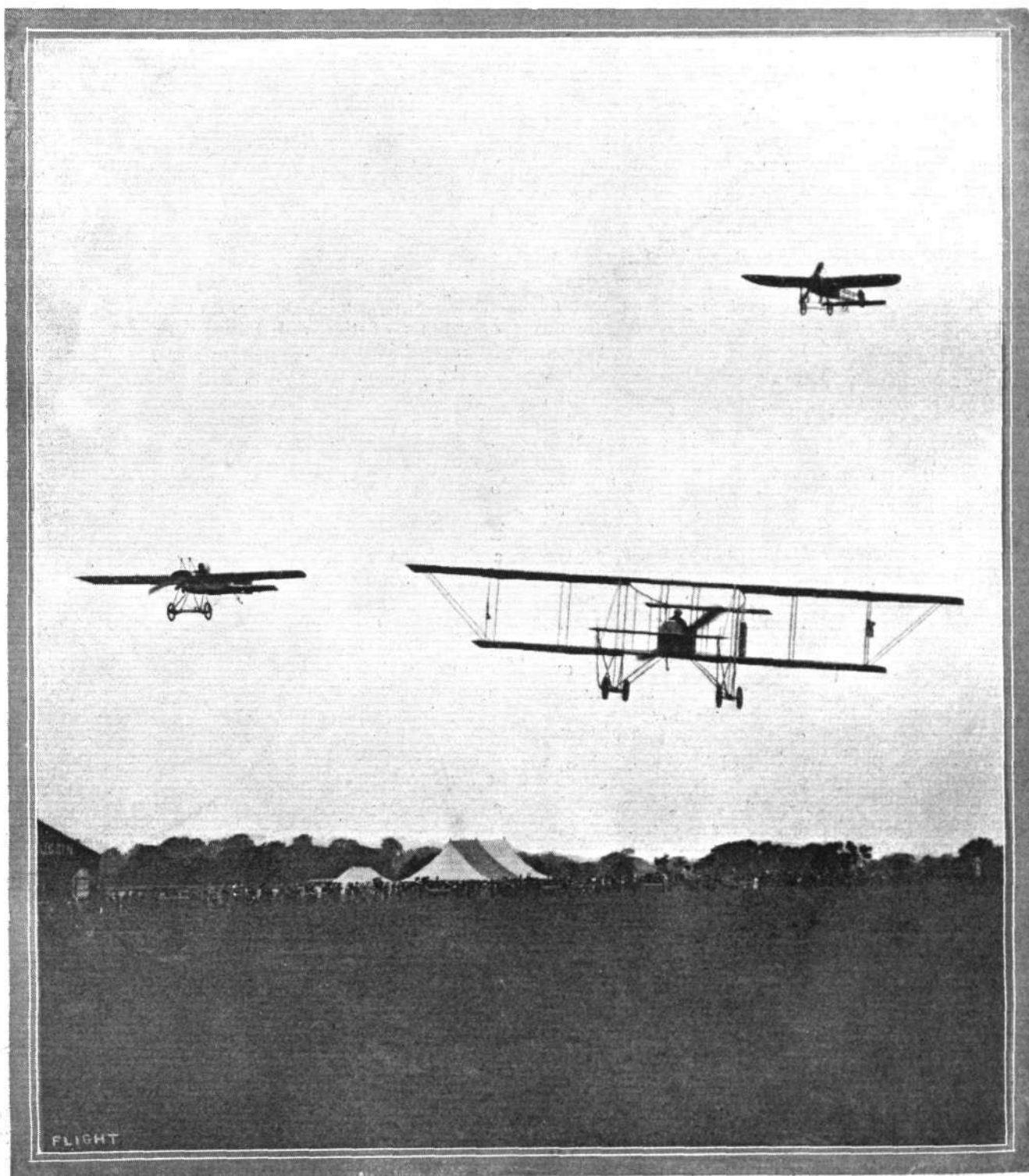
OFFICIAL ORGAN OF THE ROYAL AERO CLUB OF THE UNITED KINGDOM.

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Remarkable flying was seen in the Speed Handicap at Hendon on Saturday. Our photograph shows, on the left, Jules Nardini on the Deperdussin, on the right Pierre Verrier on the Maurice Farman, and above, Marcel Desoutter, on the Blériot, just about to enter on the last lap.

EDITORIAL

**A
National Fund
for
Military
Aviation.**

Almost coincidentally with the publication of Lady Loraine's appeal for the institution of a national fund for the fostering of military aviation, the Aerial League has announced its intention of promoting such a fund, asking as a preliminary for a million shillings. We must hasten to add that the League's appeal has not resulted in any way from the letter to which we have referred and upon which we commented last week in our Editorial columns. As a matter of fact, the scheme of the Aerial League has been under way for a considerable time, and its publication at the present juncture is simply a coincidence.

According to the official announcement of the appeal, the object which the League has in view is to offer prizes and awards of all kinds to manufacturers, inventors and others, with a view to fostering aerial navigation throughout Great Britain, and encouraging the development of a purely British aeronautical industry. By this means it is hoped that the improvement of existing types of machines will be hastened, while special attention is to be given to efforts to render machines safer and more suitable to the climatic and other conditions peculiar to these islands. Behind the campaign thus instituted by the Aerial League are many influential personages—names that occur to us are those of Lord Roberts, the Marquis of Salisbury, Sir R. Pole-Carew, Lord Cheylesmore and others equally well-known in Service and sporting circles, so that of influential support of the scheme there is certainly no lack. The first appeal of the League has taken the shape of a letter which has been sent to each Mayor in England, each Provost in Scotland, and to the chairman of county, borough, and urban councils asking him to accept the office of hon. treasurer of the fund in his district and to appoint honorary secretaries or committees, as the case may be, to undertake the local work of collection. Briefly, that is the outline of the scheme, and, to our way of thinking, it is an excellent one.

Initially, everything seems to promise well for the fruition of the scheme. The Lord Mayor, Sir Thos. Crosby, has written to the effect that he entirely approves of it and will do what he can to assist, which is a great thing when we remember that the lead of the Mansion House has an enormous influence upon the rest of our civic bodies. On our part, we welcome the scheme and wish it every success. It was time some move was made in the direction of arousing a direct sense of responsibility in the minds of the public at large, particularly when a glance at the Continent shows us what is being done in the same direction both in France and in Germany. In the former country, already no less than £106,800 has been actually realised in cash as a result of the national subscription, while another £42,000 has been promised. The immediate result will be the addition of between eighty and ninety machines to the Flying Corps, while there is still money enough left to purchase a similar number. From Germany there are no trustworthy figures available, but we know that the many local funds that have been started have realised a good round sum. On the other hand, nothing at all has been done in England, and we seem content to go along in our own characteristic fashion. However, now that a move has at last been made, we trust that the public response will be a generous one. In the words of the Lord Mayor: "The time has arrived for England to wake up and get into line with foreign countries who are straining every nerve in the

COMMENT.

matter of aerial defence, and whose peoples are responding so generously to the call for the necessary funds."

**Flights
Over the
Sea.**

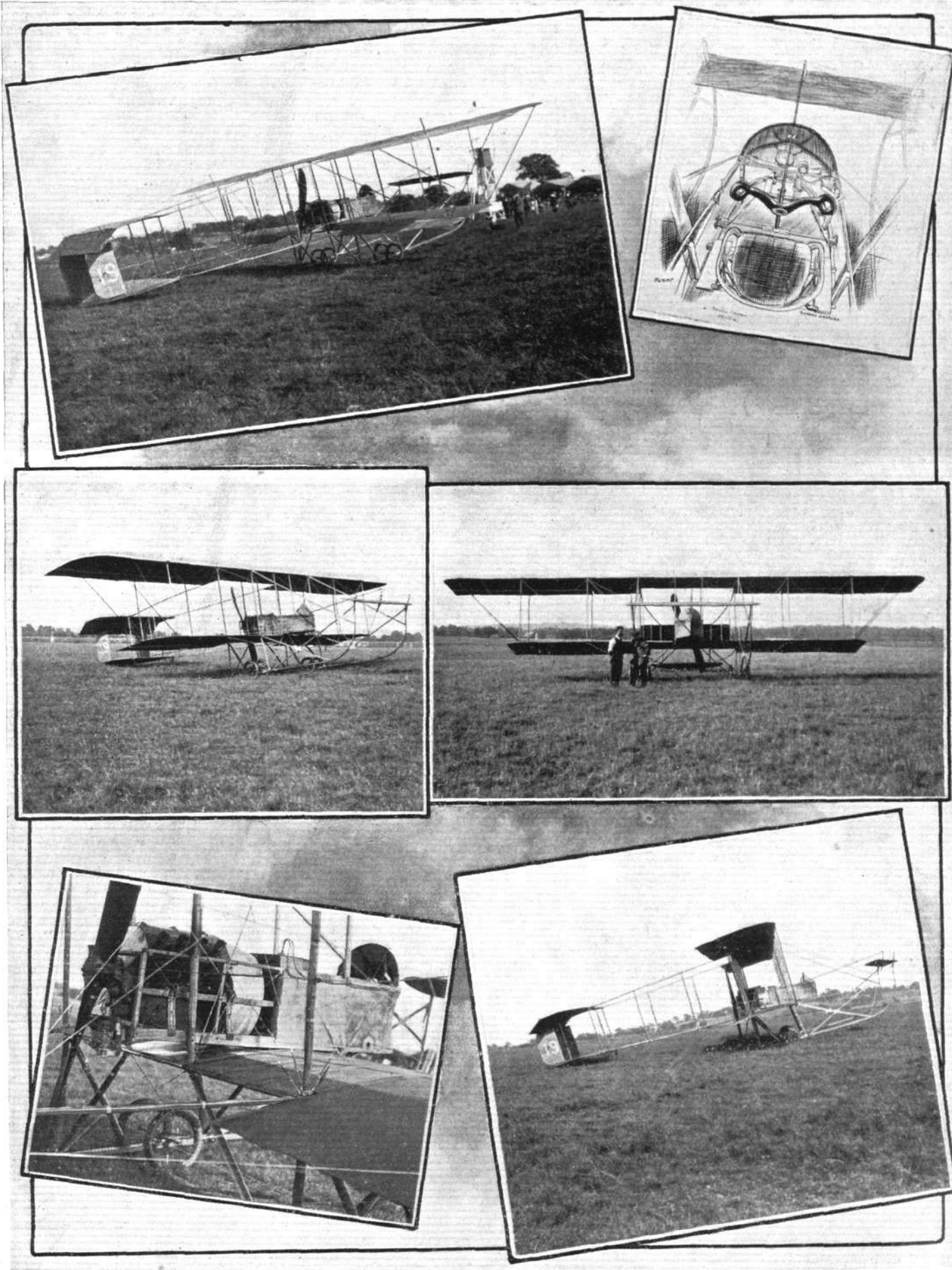
Although at first sight the resolution of the Royal Aero Club that aviators shall be prohibited from attempting flights over the sea beyond the three-mile limit, unless suitable precautions have been taken to render their aircraft capable of flotation, may seem somewhat restrictive in its incidence, it is really a very salutary ruling. For one thing, it is calculated to restrain the rasher of our aviators from running undue risks, and may thus quite conceivably have the effect of saving valuable lives which can ill be spared from the future work we look to them to do. Then, too, we have to reckon on the effect such a resolution will produce on the public mind. This cannot fail to be good, in that it demonstrates that the R.Ae.C. has a full recognition of the duty it owes to the movement to do all in its power to minimise the dangers attendant upon the development of aerial navigation, and that it is determined to do that duty, even to the length of protecting our flyers against themselves.

**Signalling
from the
Air.**

Some very interesting comments on the aeroplane in its function of air-scout are contained in the report of Lieut.-Gen. Smith-Dorrien on the combined field-firing operations of the 2nd Cavalry Brigade and the 3rd Infantry Division which were recently carried out on Salisbury Plain. He remarks that the information gained was accurate, and would have been most valuable had it been rapidly transmitted through divisional headquarters to the artillery units. The information, however, was received too late to be of use, and in his narrative of the operations, Major-Gen. Rawlinson, commanding 3rd Infantry Division, says that the most pressing need at the moment is a satisfactory code of signals between the aerial observer and the artillery commander.

Certain experiments have been made with wireless telegraphic communication between aeroplanes and the earth, and have met with qualified success. But it is not at all certain that in wireless will be found the ideal means of communication, particularly in war, because of its great susceptibility to disturbance. In another direction tests have been made of an auditory system, whistles giving different notes being fitted to the silenced exhaust of a Breguet biplane during some experiments carried out by the French military authorities at Douai. By means of an arranged code perfect communication was maintained between the aeroplane and observers below, but such a system is manifestly unsuitable for use in war. So far as it is at present possible to judge, signalling will have to be visual—such as the Means' method—to be dependable, and it is in the direction of some simple and effective method of transmitting from the machine that experimenters must turn their thoughts.

In the case of the Salisbury Plain operations, however, it would seem on the face of it that there was a weakness somewhere else than in the aerial branch. According to our reading of Gen. Rawlinson's narrative, there was no particular delay in getting the aviators' reports to divisional headquarters; the delay seems to have occurred in their transmission to the artillery commander, which argues that the best use was not made of the facilities for observation afforded by the two aeroplanes.



THE MILITARY COMPETITION MACHINES.

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General views and a detailed sketch of the control of the Maurice Farman biplane figuring in the trials.

THE MILITARY COMPETITION— THE MACHINES.

THE MAURICE FARMAN BIPLANE.

THE Aircraft Co. of St. Stephen's House, Westminster, have entered for the forthcoming Military Trials at Salisbury one Farman biplane. It is the identical machine that Verrier has been flying at Hendon these last two or three months that will represent them. This in itself is remarkable. Many, we might almost say most, of the constructors entering for the Trials have designed and built special machines to comply with the published requirements. So great a faith have the English representatives of the Farman in the product under the design of the brother Maurice that they are supplying a machine, as it were from stock, to uphold their reputation. All the more honour to them if they do well. It

would be unnecessary to recall at length the characteristics of this machine, for we described it fully as recently in the issue of July 6th. The photographs we publish, together with a *résumé* of its main features, will suffice.

Main characteristics:—

Motor...	8-cyl. 70-h.p. Renault	Area: main planes	552 sq. ft.
Length ...	39 ft. 10 ins.	Area: tail...	120 sq. ft.
Span: upper ...	50 ft. 6 ins.	Area: elevator ...	28 sq. ft.
Span: lower ...	37 ft.	Speed ...	55 m.p.h.
Total area ...	700 sq. ft. approx.	Useful load ...	800 lbs.

THE BRISTOL AEROPLANES.

OF the four machines entered by the British and Colonial Aeroplane Co., two will be tractor biplanes of the type designed by Mr. E. C. Gordon England, and the remaining two will be monoplanes of the well-known military type. The tractor biplanes will be flown by Messrs. C. H. Pixton and Gordon England, the monoplanes by Messrs. H. Busteed and James Valentine. Truly, with such a display of excellent machines and expert pilots, they should be successful in carrying off some of the more important awards. Next week we hope to publish photographs and complete descriptions of each machine. For the present, however, we must be content to mention their main characteristics:—

Main characteristics:—

Bristol Military Tractor Biplanes.

Motor...	14-cyl. 100-h.p. Gnome	Span ...	40 ft.
Length ...	31 ft.	Area of main planes	400 sq. ft.

Weight ...	1,474 lbs.	Propeller diameter	9 ft. 6 ins.
Speed ...	60 m.p.h.	Pilot ...	Mr. C. H. Pixton

Motor...	4-cyl. 70-h.p. Daimler-Mercedes	Weight ...	1,650 lbs.
Length ...	31 ft.	Speed ...	57 m.p.h.
Span ...	40 ft.	Propeller diameter	(4-bladed)
Area of main planes	400 sq. ft.	Pilot...Mr. E. C. Gordon England	

Bristol Military Monoplanes.

Motor...	7-cyl. 80-h.p. Gnome	Speed ...	70 m.p.h.
Length ...	28 ft. 4 in.	Propeller diameter	8 ft.
Span ...	40 ft. 3 ins.	Pilots... Messrs. H. Busteed and James Valentine	
Area of wings	242 sq. ft.		
Weight ...	792 lbs.		

THE DEPERDUSSINS.

BY courtesy of Mr. Lawrence Santoni, managing director of the British Deperdussin Aeroplane Co., Ltd., we were able some days ago to secure a few advance photographs of the Deperdussin machines entered for the military trials now in course of construction. At the time of writing, however, they stand practically complete in the Company's excellently equipped works at Highgate. To-day will probably see one of them—the one fitted with the 100-h.p. Anzani motor—tested in flight at one of our large flying grounds.

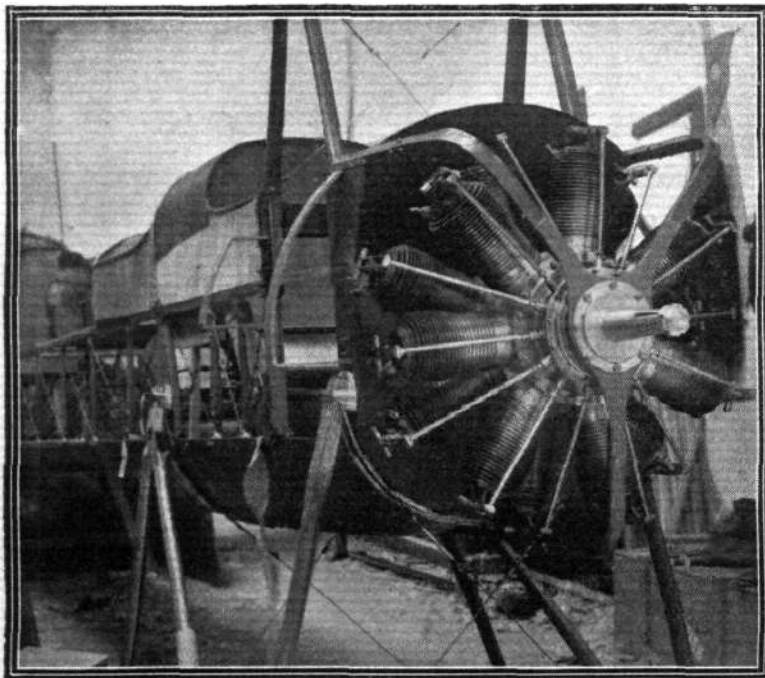
There are two British-built Deperdussins entered for the tests, the one of which we have just spoken, and another very similar machine fitted with a 14-cylinder Gnome of 100-h.p. Broadly speaking, they are of the same dimensions throughout. They may, however, readily be distinguished from each other, in that the Anzani machine has wings of "butterfly pattern," i.e., the

wings are wider at the tip than at the shoulder—as were the wings of Vedrines' 100-h.p. Deperdussin racer, a machine we reviewed some few months since—whereas the wings of the 100-h.p. Gnome Deperdussin have parallel leading and trailing edges. There are one or two other minor differences. For example, the Gnome machine boasts regulation hockey-stick-like skids projecting in front. Those of the Anzani-engined monoplane are cut off short. The mountings of the motors, and the cowls that cover them, too, differ slightly. The 10-cyl. Anzani being non-rotary is very easily and conveniently fixed in place by bolting the crank-case direct to a vertical plate that caps the front of the fuselage. Through a large diameter circular hole cut in this plate, the oil pump and magneto of the motor project into the body, where they may be reached through aluminium inspection doors. The carburettor—a G. and A.—is fitted outside the body, directly under the crank-case, where, if it likes, it can drip petrol all day long without causing any very serious danger of fire. With an interior fitted carburettor, the regulation semi-cylindrical hull of the Deperdussin monoplane forms a much too convenient sump for stray petrol than is to our complete liking. This, of course, can easily be obviated, and is so in most cases, by the fitting of a funnel to collect the drips and conducting them away by a tube. Stray lubricating oil does not matter, except for the mess it makes.

After noticing the massive carburettors with which Renault engines are fitted, this little G. and A. seems remarkably tiny, and rather causes one to wonder how it can efficiently atomise sufficient petrol to keep the motor turning at 100-h.p. That it does so, however, there is not the slightest doubt. More than that, this particular engine gave a full 130-h.p. when tested on the bench for the first time at Anzani's Courbavoie works.

One or two points about the general construction may be new to most of our readers in this country. The tail surface, in this machine, is applied to the top of the fuselage instead of to each side, and is held there by four bolts and by two tubes that brace the rear. These tubes also serve to take the lift and depression of the elevators, which, by the way, are of very ample area to provide a sensitive control over a machine so short in overall length. The length of the fuselage is only 24 ft. as compared with its 41½ ft. span of wing. A noticeable point regarding the tail is that the levers operating the elevator flaps and rudders are built up of ten laminations of wood. So strong are they that there is no necessity to brace these organs further with wire. Quite an appreciable amount of head resistance is avoided in this way.

Pilot and passenger sit in tandem. They are protected against the rush of air by a neat little coachbuilt body that is fitted to the top of the fuselage. It is made of three-ply wood, roughly to streamline form, and only weighs about 8 lbs. The "run-off" of the body, behind the pilot's back, is used as a locker, in which may be stored away spare parts, a Thermos flask, or any accessories of a mechanical or personal kind that he may choose to carry.



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THE MILITARY COMPETITION MACHINES.

The mounting of the 100-h.p. Gnome engine in the Deperdussin monoplane that will represent the British Deperdussin Co. in the War Office trials.

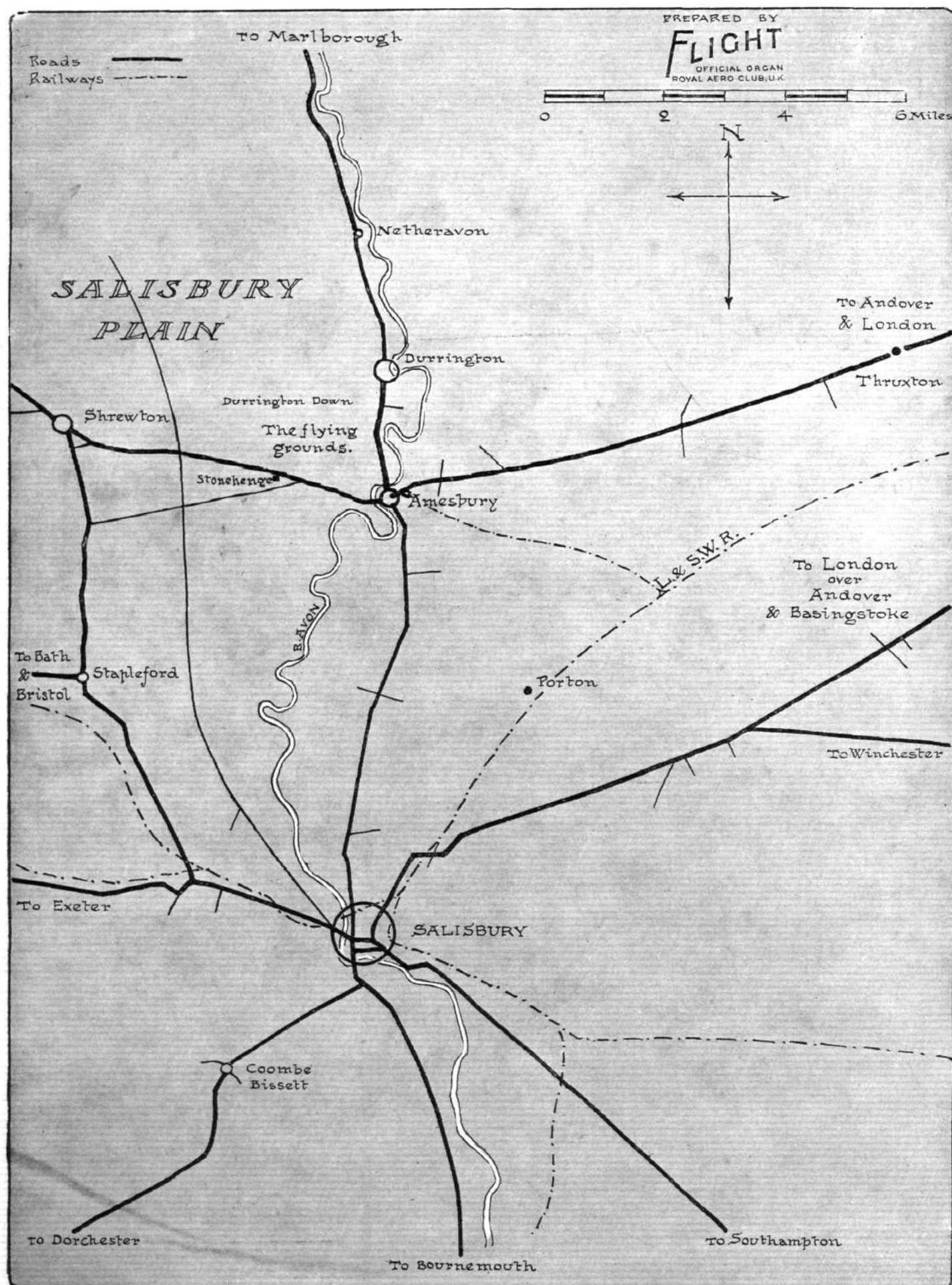


British built
100 H.P.
DEPERDUSSIN MONOPLANE
Anzani motor

THE MILITARY COMPETITION MACHINES.

"Flight" Copyright.

Detailed views of the 100-h.p. Anzani-Deperdussin monoplane that will be flying at Salisbury next month. Lieut. J. C. Porte will be the pilot.



The above map shows the main roads in the vicinity of the flying grounds where the Military Aeroplane Competition will take place, beginning probably in the first week of August. The nearest large town is Salisbury, and the nearest village is Amesbury. There is a branch line from the main L. & S.W.Ry. which goes to Amesbury, but many of the trains go *via* Salisbury. That famous monument of the past, Stonehenge, will be a silent witness of these modern wonders.

A large petrol tank, holding 20 gallons, forms the pilot's wind-screen—a 10-gallon oil tank protects the passenger. More petrol, 40 gallons in all, is stored away in tanks below the seats, from which place it is supplied by pressure to the main container.

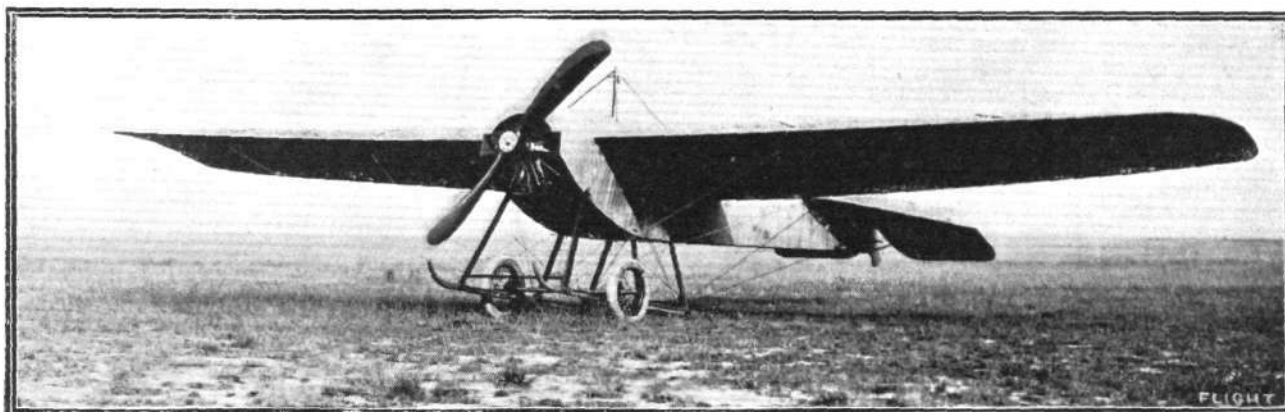
One of our photographs illustrates this point well. Another shows how the trailing edge of the wings on each side of the body is cut away so that the pilot may see right down below him. The passenger is so far forward that he can see down over the leading edge and obtain a good view of all that is going on below him.

The control is fitted in duplicate and operates the elevators through a secondary shaft that does away with the necessity of passing the elevator wires round pulleys. This shaft is mounted some little distance behind the pilot, one of our pictures showing

this clearly. The landing chassis and wings are perfectly standard. As for the unusual shape of the wings, the designers claim that it lends greater efficiency to the machine, and makes the warp much more powerful in action. Moreover, they say that it renders the warp to a very great extent automatic, at any rate, much more so than on machines, the wings of which taper towards the tips.

Main characteristics:—

Motors—	Area ...	270 sq. ft. approx.
14-cyl. 100-h.p. Gnome (rotary)	Average chord ...	6 ft. 9 ins.
10-cyl. 100-h.p. Anzani (radial)	Useful load ...	800 lbs.
Length ...	Speed ...	70 m.p.h.
Span ...		41 ft. 6 ins.



The Hanriot two-seater monoplane which has been entered for the British Military Competition.

The Royal Aero Club of the United Kingdom

OFFICIAL NOTICES TO MEMBERS

Committee Meeting.

A MEETING of the Committee was held on Wednesday, the 24th inst., at 5.30 p.m., when there were present:—Sir Charles D. Rose, Bart., M.P., in the Chair, Mr. Griffith Brewer, Prof. A. K. Huntington, Mr. Alec Ogilvie, Mr. C. F. Pollock, Mr. R. W. Wallace, K.C., and the Secretary.

Aviators' Certificates.—The following aviators' certificates were granted:—

251. Harold Sweetman-Powell (Burgess-Wright Biplane, Sopwith School, Brooklands).
252. Lieut. Hugh Lambert Reilly, I.A. (Deperdussin Monoplane, Deperdussin School, Hendon).
253. Air Mechanic William Victor Strugnell (Bristol Biplane, Army School, Salisbury Plain).
254. Lieut. F. M. Worthington-Wilmer (Bristol Biplane, Bristol School, Brooklands).
255. Capt. Robert C. W. Alston, H.L.I. (Farman Biplane, Sopwith School, Brooklands).
256. Lieut. Claude Albemarle Bettington (Bristol Monoplane, Bristol School, Salisbury Plain).
257. Capt. Charles Darbyshire (Vickers Monoplane, Vickers School, Brooklands).
258. Robert William Rickerby Gill (Deperdussin Monoplane, Deperdussin School, Hendon).

259. Edward Petre (Handley Page Monoplane, Handley Page School, Fairlop).

260. Lieut. Francis FitzGerald Waldron (Bristol Biplane, Bristol School, Brooklands).

261. H. R. Simms (Avro Biplane, Roe School, Brooklands).

Royal Aero Club Special Certificate.—The following Royal Aero Club Special Certificate was granted:—

6. Capt. P. Hamilton (Deperdussin Monoplane).

Cross-country course: Lark Hill to Weymouth and back.

Flights over the Sea.—The attention of aviators is particularly drawn to the following regulation:—

Aviators are prohibited from attempting flights over the sea, beyond the three-mile limit, unless suitable precautions have been taken to render their aircraft capable of flotation.

French Hydro-Aeroplane Meeting.

A Hydro-Aeroplane Meeting will take place on August 24th, 25th, and 26th, 1912, in the Bay of St. Malo. 41,000 francs are offered in prizes, and, among other events, there will be a Hydro-Aeroplane race, on August 26th, from the Bay of St. Malo to the Isle of Jersey and back. Particulars can be obtained from the Royal Aero Club.

166, Piccadilly.

HAROLD E. PERRIN, Secretary.

THE ROYAL FLYING CORPS.

THE following official notices are from the *London Gazette* of July 19th:—

Establishments. Royal Flying Corps. Military Wing.—The date of appointment of the eight flying officers notified in the *Gazette* of July 16th, 1912, is May 13th, 1912, and not as therein stated.

Special Reserve of Officers. Royal Flying Corps. Military Wing.—Denys Corbett Wilson, to be Second Lieutenant (on probation). Dated July 20th, 1912.

From the *London Gazette* of July 23rd:—

Establishments. Royal Flying Corps. Central Flying School.—The undermentioned officers are appointed Instructors, dated May 20th, 1912: Captain John D. B. Fulton, Royal Artillery, and Captain Eustace B. Loraine, Grenadier Guards (since deceased).

AVIATION AT THE ARMY MANŒUVRES.

It is understood that aviation will play an important part in the Army Manœuvres which are to take place in the neighbourhood of Cambridge from September 16th to 21st. Each of the opposing forces is to be attended by a section of the Royal Flying Corps fully equipped with a number of aeroplanes, airships and man-lifting kites.

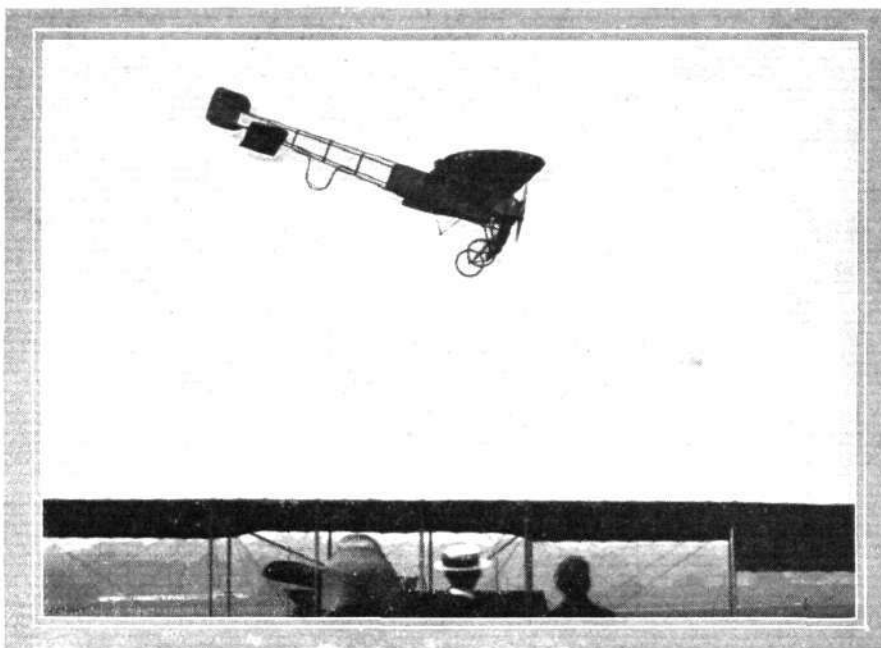
AVIATION AT NAVAL MANŒUVRES.

IN connection with the Naval Manœuvres in the North Sea, Commander Samson, with his hydro-aeroplane, was attached to the Red side and had his headquarters at Harwich. On Tuesday week he paid a visit to Lowestoft, where the craft came down on the water, and was later wheeled ashore in order to make some adjustments to the motor. It returned to its base at Harwich on the following day.

THIRD JULY MEETING, HENDON.

THERE were no more new machines at Hendon on Saturday, and the weather conditions were not exactly propitious, although the rain had practically passed away by the time Nardini opened the ball with a short flight at about 300 ft. on the veteran 50-h.p. Deperdussin just after 3.30. About ten minutes later Astley made a fine flight on the Grahame-White Blériot No. 6, finishing with a long straight *vol plané* lasting the whole length of the ground. From then on till the start of the first cross-country race, the only incident was a short test flight by Turner, on the Grahame-White Farman, the engine of which was not running at all regularly. There were three competitors in the cross-country race to Elstree and back twice; these being Verrier on the Maurice Farman, Astley on No. 6 Blériot and Nardini on the Deperdussin. The two latter started scratch, Verrier being given 1 min. 3 secs. At the end of the first lap Verrier and Nardini arrived together, Nardini having passed the biplane before they left the aerodrome again. During the second lap, however, the Deperdussin pilot lost his way, thus allowing Astley to win from Verrier by 27 $\frac{3}{4}$ secs. Nardini arrived back a little over a minute after Verrier.

Desoutter then made a very pretty exhibition flight of about 28 minutes on the No. 6 Blériot, executing extremely fine and steady banked turns and *vols piqués*. In the grand speed handicap Nardini, Desoutter and Verrier took part. Verrier was off the mark first with 44 seconds start,



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Mr. H. J. D. Astley finishing a straight *vol plané* from a height of about 2,000 ft. at Hendon on Saturday last.



"Flight" Copyright.

Mr. Claude Grahame-White, in his Henry Farman, about to take up as passenger, one of the King's Indian orderly officers, at the London Aerodrome, Hendon.

followed by Desoutter with 27 seconds and Nardini, scratch. After the first lap, during which there was an exciting incident when Desoutter's Blériot was severely buffeted by the backwash from the Maurice Farman, the machines were all circling the course in a bunch, the excitement of the crowd being intense when at the beginning of the last lap the three machines passed No. 1 pylon practically in line. Nardini succeeded in reaching the goal first, with Desoutter and Verrier close together in second and third places.

After the racing, Moineau, who was suffering from a severe chill, took the 100-h.p. Breguet out for a spin at a high altitude, following this with a further flight later in the evening. At the same time, and practically continuously for the rest of the evening, Astley was circling round, and exploring the Mill Hill and Edgware districts, and Verrier was engaged in his usual occupation—passenger carrying.



ARMY AIRSHIP "GAMMA" IN LONDON.

THE Government airship shed at Wormwood Scrubs has been so very seldom put to the use for which it was intended, that it is interesting to chronicle the arrival of an airship there last week. "Gamma" sailed over from Farnborough on Thursday, July 18th, *via* Windsor, passing through a heavy storm of rain somewhere in the neighbourhood of Bagshot. After steering over Windsor and Eton, an easterly course was laid, and somewhere between 4.30 and 5.0 p.m. the ship was sighted over the White City. A circuit was described there at a height of over a thousand feet, and while this was in operation two officers in uniform dashed up to the airship shed in motor cars. It was evident that the airship crew had seen them, for she began to descend on an even keel, and a small black pennant was observed to be flying between the frame and the envelope. This, I believe, is the "about to land" signal.

By this time a large crowd had collected, and the northerly wind was blowing the smoke almost horizontally from some factory chimneys near by. The airship made a small circuit round the west of the shed, descending rapidly under the thrust of her propellers, now revolving in an almost horizontal plane. She was brought up into the wind over the enclosed ground on the east of the shed, and from that point descended vertically until about 150 ft. from the ground. A rope was then dropped, the engines stopped, and a small amount of water ballast thrown over to check any tendency to fall rapidly.

The crowd then swarmed over the railings and pandemonium reigned. A stiff breeze added to the difficulties of the officers in charge. Fortunately, it was blowing almost straight into the mouth of the shed, and after some delay, while the huge doors were opened, the airship was safely housed within, and the police "persuaded" the crowd to retire outside. I managed to get a look at the engines, &c.,



DUBLIN TO BELFAST AND BACK RACE.

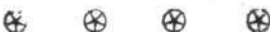
(Under the Competition Rules of the Royal Aero Club.)

THE official rules governing this event, presented by the Aero Club of Ireland, have now been issued. Subsequent to a visit last Friday, at the request of the Irish Club, of Mr. Harold E. Perrin, the Secretary of the Royal Aero Club, it was decided upon his advice to postpone the race until September 7th, in view of the finish of the Army Aeroplane Trials finishing at the end of August. Under these circumstances it is to be hoped a really representative entry list will result. The prizes offered by the Aero Club of Ireland are: First prize, £300; second, £75. While the committee cannot undertake to pay the expenses of competitors, it is their intention to pay out of the profits derived from the contest after deduction of all expenses, exclusive of prize money, such sum as they shall decide towards the expenses of each competitor. In no event shall each competitor receive more than £40 towards his expenses.

The following are the chief points in the rules:—

It is an open event. The winner will be the competitor who, on an aeroplane in flight, accomplishes the distance between Dublin and Belfast and back in the shortest time. Entries upon the official form close on August 12th, 1912. There are no entry fees.

Competitors on arrival at the Belfast Control must remain there



A Swiss Hydro-Aeroplane Competition.

THE local section of the Swiss Aero Club at Ouchy is organising a hydro-aeroplane competition to be held on September 3rd over a course from Ouchy to Veney and Montreux and back. The prize of

Cross-Country Handicap (about 16 miles).
Trophy and money prizes presented by Maurice Farkoa, Esq.

	Handi- cap.	Time. m. s.	Net Time. m. s.
1. H. J. D. Astley (50-h.p. Gnome-Blériot)	Scratch	21 24	20 21
2. P. Verrier (70-h.p. Renault-M. Farman)	1 3	21 51½	21 51½
3. J. Nardini (50-h.p. Gnome-Deperdussin)	Scratch	23 18	22 15

Grand Speed Handicap (6 laps).

Prizes presented by Messrs. Rushmore Lamps, Ltd.

		Time. m. s.	Time. m. s.
1. J. Nardini (50-h.p. Gnome-Deperdussin)	Scratch	9 49	9 7
2. M. Desoutter (50-h.p. Gnome-Blériot)	0 27	9 57½	9 42½
3. P. Verrier (70-h.p. Renault-M. Farman)	0 44	10 9½	10 9½

from quite close quarters. The following points may prove of interest. The steersman is not placed centrally, but on the right-hand side. On the left is the instrument board, with perhaps a dozen different instruments on it. I had time to note the water pressure gauges, two aneroids and a statoscope. On the floor were the water-ballast bags, made of the same fabric as the envelope and tied off at the neck. The steersman has the compass between his feet on the floor, one would think an inconvenient position. The steersman has a campstool to sit on, and a second one is provided for the pilot.

No ascents were made that day or Friday owing to bad weather, but on Saturday morning early I was informed the airship returned to Farnborough. A spectator told me afterwards that the work of getting the ship out of the shed was done by not more than twelve men, of whom two were policemen. He said that the ship was taken out in 7 miles of wind and brought to the spot where she had descended. The crew then got in, a few ballast bags were removed, the engines started, and then at the sound of a whistle everyone let go, and the ship ascended vertically into the air, quickly disappearing in the direction of Hammersmith. I learn that a large part of the journey back was made in dense fog, and that, in consequence, steering by compass had to be resorted to.

The airship squadron have a very neat gas tender; it is a motor vehicle adapted to take the heavy gas cylinders, and also a number of men, small stores, &c.; it was used on this occasion to bring the detachment down from Farnborough.

Those who saw the Clement-Bayard airship land at Wormwood Scrubs will appreciate the advantage in handling which the swivelling propeller confers; and one may well wonder why it is that neither France nor Germany use it on any of their airships.

PTERODACTYL.

half-an-hour, when they will re-start for Dublin. Any time spent in the Control beyond the half-hour will be counted as flying time.

Landing *en route* will be permitted.

There must be at least three starters or no second prize will be awarded. If less than three, the first prize money may be reduced at the discretion of the committee, whilst the right to postpone or cancel the contest is reserved, should it be found on August 25th that the number of probable competitors is, in the opinion of the committee, insufficient to justify it in carrying out the contest.

Individual replacements and repairs to the aeroplane and motor may be made, but neither may be changed as a whole. Accommodation for his aeroplane will be provided free to each competitor from 9 a.m. on Friday, August 30th, 1912.

The committee reserves to itself the right not to take the time of any competitors alighting in Dublin on the return journey after the hour of 7 p.m., and to disqualify such competitors from being entitled to either of the prizes. The aeroplane of each competitor must bear a number of sufficient size to render same capable of being discerned while the aeroplane is in flight.

Further particulars can be obtained on application to the Secretary, 35, Dawson Street, Dublin, or of the Secretary, Royal Aero Club, 166, Piccadilly, London, W.

1,000 francs will be awarded to the aviator who starts from Ouchy at 3 o'clock, lands at Veney at 3.30, makes three separate flights there, leaves at 4.15, arrives at Montreux at 4.30, makes three flights there, and then returns to Ouchy before 6.30.

MONOPLANE WING SPARS.

THE spars used in monoplane wings are, apparently, about to pass through the same changes as motor car chassis members passed through several years ago.

There were, in the beginning of motor cars, frames of wood, of armoured wood, of stout steel tubes, of lighter tubes with bracings, and eventually of pressed steel. Although one would not go so far as to say that the ultimate type of wing spar will be one of pressed steel, such as is predominant in cars to-day, it is fairly safe to say that we shall all eventually adopt one design, whatever is found best, and the sooner we find this the better.



FIG. 1.

Investigation of the points, good and bad, of present-day wing spars may help us to form our opinions as to which school of thought to follow.

Probably the commonest form of wing spar is one cut or shaped from a solid piece of ash or other wood and made of "H" or girder section. Fig. 1 shows one of this type.

At the point of attachment of wing wires, the spar is either left solid, or has pieces let in flush with the sides.

The chief stresses in a spar of this sort are those of compression, and it is a most unfortunate fact that, though ash has an average ultimate tensile strength of 19,000 lbs. per square inch, its strength in compression is seldom over 9,000 lbs. per square inch.

The serious stresses arise from compression due to wing wire pull

and compression on the under side due to bending upwards.

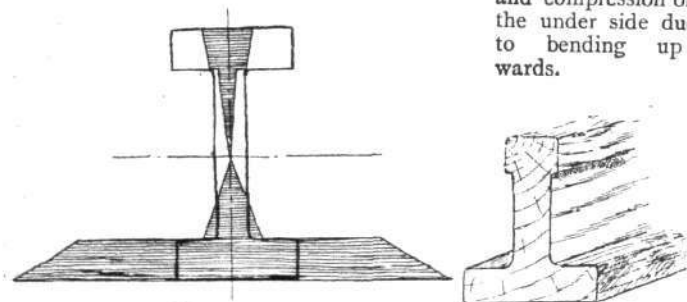


FIG. 2

The former compression stress is spread over the whole of the area of the spar, but the latter is in the lower half of the spar only and varies in intensity from no stress in the centre to maximum stress in the lower extreme fibres of the spar. These two compression stresses, when added together, give the maximum stress the spar is subjected to in compression from these two loads.

Investigating the stresses in the upper half of the spar, we find a compression due to wing wire pull and a tension due to bending upwards, this latter reducing, of course, the compression stress in

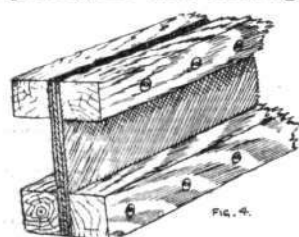


FIG. 4.

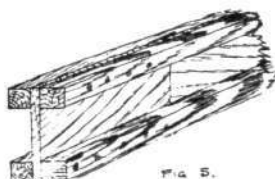


FIG. 5.

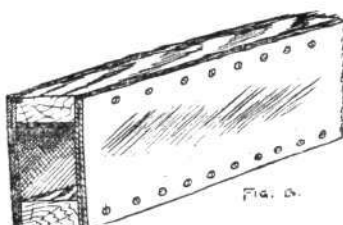


FIG. 6.

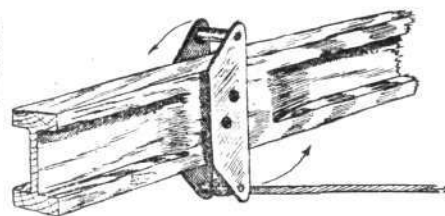


FIG. 7.

the upper half of the spar. A sectional stress diagram shown in Fig. 2 will serve to illustrate how disproportionate are the stresses in a spar with equal sectional area above and below the centre line, the area shaded showing the relative amount of compression stress.

There is still another stress which is seldom recognised when designing these spars and this is a stress on, or near, the centre line, or neutral axis of the spar. It is a stress due to shear, and is caused by the tendency of the fibres of the spar to slide on one another when the spar is deflecting under its load.

That this stress, though very low in steel girders, is of more than casual importance is shown by the fact that one spar tested by the writer fractured by shearing along the centre line before failing from compression or tension. From this it appears that the correct section of a spar between wire fastenings should be something like that shown in Fig. 3.

Another point one must not fail to consider when designing spars is the size of the bolts used to attach the wing wire plates. For instance, if we used a bolt of a diameter of one millimetre through the spars and attached our wing wires to the ends of the bolt (we know the bolt would break under the load, but let us assume for our purpose that it would not), the compression per square inch on

the wood due to wing wire pull would be too great and our one mm. bolt would tear its way along the fibres of the spar.

It looks as though many of our wing spars are fitted with bolts that are only designed to withstand the load in themselves, and no notice is taken of the load that the wood in actual contact with the bolt has to carry.

For instance, if the compression stress in the spar due to wing wire pull on any one bolt is 1,500 lbs., and we are allowed, say, a factor of safety of 6; assuming the thickness of the spar where the bolt is fitted to be 2 ins. then the diameter of the bolt to enable the wood to resist the compression must be $\frac{1}{2}$ in. although it is quite possible that a $\frac{1}{2}$ in. bolt, as far as stress in the bolt is concerned may be much too large.

Whilst on the subject of bolts fitted into woodwork, there is a method commonly used in motor body manufacture of increasing the hardness of the wood round the bolt, which method the writer has never seen in aeroplane construction. It is to drill a considerably smaller hole in the wood than is desired, and to "rub" this hole out exactly to size by means of a red-hot iron. It is sometimes done as a makeshift when proper tools are not at hand, but the makeshift in this case is often a sounder and stronger job than the proper way. After the hot iron has been used the hole can be reamed out to the exact size of the bolt, and this reaming should just remove the charred black powder.

There are various forms of built up spars, one of which is shown in Fig. 4. The method employed is to have a central piece of ash or three-ply wood with four strips of ash glued together and riveted with copper rivets and washers. If the centre piece is of three-ply there may be some slight advantage in this spar over one cut from the solid, as the resistance to shear in three-ply is somewhat greater than is the resistance to shear of ash along the grain.

If ash is used it would be a good plan to have the centre board in sections with the slope of the grain at about 30° , and alternate sections should have the grain reversed as shown in Fig. 5.

Taking this spar all round, it is very doubtful if it has any important advantages over the spar cut from the solid. The machine may have to remain out on a warm, damp night with a reduction in the strength of the glue by 50 or 60 per cent., even though the spar may have been varnished carefully to prevent this. Rivets or screws weaken the spar by the amount of sectional area of the spar that is removed and according to their distance from the neutral axis.

If the thickness of the upper flange is $\frac{3}{4}$ in. and the rivets employed are $\frac{3}{16}$ in. in diameter the strength of the spar is reduced by approximately 25 per cent.

Another spar of somewhat similar construction is shown in Fig. 6, the method employed in this case being to glue two pieces of ash and two pieces of three-ply wood together, screwed up with wood screws into the ash and varnished to prevent the glue perishing from damp.

A glued joint is about as strong as can be when well made, but there is always the remote possibility of it being badly made or of inferior glue being used or of deterioration from damp, and a designer's chief motive ought to be to remove these possibilities.

A built up spar is difficult to shape to suit the varying loads a spar has to carry, and thus one sees spars of this class with a constant taper from the fuselage to the tip. Spar sections, of course, ought to alter with the load each portion of the spar has to carry. This is done very accurately in the Nieuport wing, but then the Nieuport is mathematically designed from tip to tail, and is just one of those instances that prove the worth of design as against guesswork.

Built up spars are troublesome at the point of attachment of the wing wires, and generally have to have pieces let in, which in itself is a source of weakness. Solid spars are better in this respect.

The rear spar in a monoplane very often has greater compressional stresses to withstand than has the front spar, as the rear spar



FIG. 8.

has an extra compression due to head resistance of the planes, and the rear spar bracing wires are very often inclined to a much smaller angle than are the bracing wires of the front spar.

The Flanders rear spar is about as good as any, being practically a solid square sectioned piece of ash with quite a large sectional area of material.

The wire fastening side plates on a spar have a great deal of room for improvement in design. A very usual type is that shown in Fig. 7. When the machine is in the air, the whole of the load is, of course, on the under wires and these, instead of pulling directly on the spar bolts, are trying to lever over the two side-plates and probably putting about four times as much stress on the bolts as a

straight pull would apply; worse than this, the already weak compression side of the spar has to withstand the extra and unnecessary bending moment caused by this leverage.

A better designed fastening would be one in which a straight line passing along the axis of the wire would strike a point midway between the two spar bolts as shown in sketch, Fig. 8.

The writer is very much of the opinion that steel spars have got to come to the fore, and he is also convinced that it is possible to design light enough spars with an entire absence of bracing wires. Whether he is right or wrong the future alone will show.

GRANVILLE E. BRADSHAW.

FROM THE BRITISH FLYING GROUNDS.

Royal Aero Club.—Eastchurch Flying Ground.

MONDAY, Tuesday and Wednesday last week proved very quiet on account of the most unseasonable weather. Thursday Lieut. Grey took out the Birdling monoplane which has for some time past been having a holiday. After one or two straights and taxying over the hard ground the fuselage gently settled down in the middle, finally breaking off short close to the skid anchorage. Lieut. Brygs took out school machine for some practice circuits, followed afterwards by Private Edmunds.

On Friday Private Edmunds went for his *brevet*, but was unable to land within the specified distance of the landing spot. He again tried on Saturday, but had to come down owing to engine trouble, which was apparently due to castor oil having found its way into the petrol feed through a leak in the tank. This was rectified, and on Monday he successfully accomplished the test.

On Friday Capt. Gordon was also out on the Henry Farman, which he again took out on Saturday, climbing quickly to a height of 2,400 ft., with Lieut. Brygs as passenger. The gliding angle of the machine is very good, and when flying is a source of pleasure to its pilot. The 70 Gnome engine has, however, given a great deal of trouble lately, chiefly due to inlet valve springs breaking.

Mr. Ogilvie was flying his N.E.C.-engined Wright, and took Miss G. Brown and Mr. Fowler as passengers during the evening. Sunday was a glorious day, the wind never stopping the 10-m.p.h. mark, although in the early morning up-currents were very strong. Mr. Ogilvie and Mr. McClean were out on their N.E.C.-Wright and 70 Short tractor respectively, taking in turn as passenger Mr. Marshall.

On Monday evening Commander Samson took out the Henry Farman, followed by Capt. Gordon afterwards on the same machine. Lieut. Malone was out on Mr. Mortimer Singer's Farman. Mr. McClean was on the 70 Tractor, Mr. Ogilvie on the N.E.C. Wright, whilst Commander Samson, after landing on the Henry Farman, took up the Short monoplane. During the evening, while the machines were flying, a bunch of seven wild ducks came close to one of the machines which was about 300 ft. up. The pilot followed them and was able to get within 35 yds., when they started sharp turning, elevating and diving tactics, all of which the machine was equally competent in, except the very rapid elevating, where they scored a point, although the machine is capable of well over 200 ft. a minute.

Brooklands Aerodrome.

THE Bristol School, owing to the military trials on Salisbury Plain drawing near, has sent up their pupils from Salisbury to join their school at Brooklands, and the joint school at Brooklands now presents one of the busiest sights imaginable. There can be seen some 20 pupils hard at work upon four biplanes and three monoplanes, all machines kept going every available minute. With them now the week starts about 3.30 to 4.17 on Monday mornings, and finishes at dark on Sunday night. Every morning when the conditions seem favourable, either Mr. Hotchkiss, the chief of the school, or Mr. Merriam, his able assistant, fly round just after daybreak, for a short circuit, to ascertain if the conditions are favourable for school work, then all the machines are brought out and pupils can be seen flying in all directions. Every day, either morning or evening, and in most cases both Mr. Hotchkiss and Mr. Merriam were giving tuition flights to Messrs. Cheesman, Summerfield, Major Higgins, Lieuts. Atkinson, Waldron, Playfair, Wanklyn, Duberly, Hope, and Bettington, while Mr. Holyoake, Lieut. Wilmer, Capt. Macdonell, Lieut. Arthur, Mr. Pickles, and Mr.

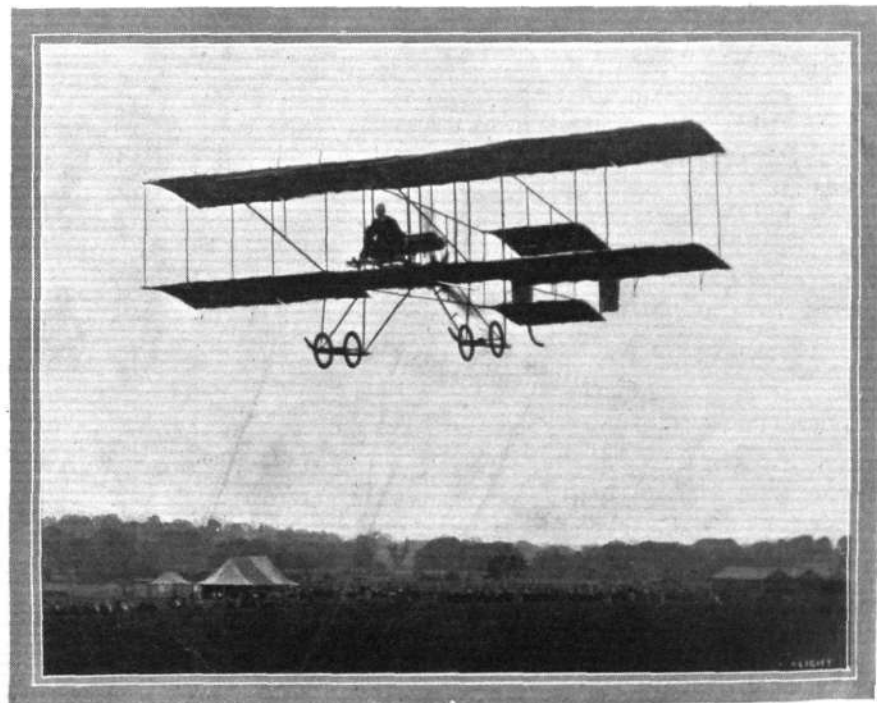
Campbell were flying solos. Later in the week Mr. Summerfield, Major Higgins, and Lieut. Waldron all joined the ranks of solo flyers, each shaping quite well. On Friday morning, in quite a nasty wind, Lieut. Wilmer went off about 4.30 to fly for his *brevet*, each five figures of 8 taking about the average time of 17 mins., keeping a good course, though rather on the low side, making two perfect landings.

At the Avro School, Lieut. Parke was seen on most days on the school machine; also was Mr. Sims, who on Saturday morning flew the first half of his *brevet* test in quite good form considering his short tuition.

On Friday morning Lieut. Parke started off to Farnborough on one of the Avro military machines with Mr. Gordon Bell as passenger, but before they got to Woking they had received such a tossing that they very wisely decided to return to Brooklands, coming back and landing perfectly in a very nasty wind, which showed up the excellence of the Avro machine.

Sopwith's School, with Mr. Perry as chief, have been busy all the week, starting work each morning at cock crow, and all their pupils received much instruction either as passengers on the Burgess-Wright or Farman biplanes, or solo flying. On Friday morning Capt. Alston flew for his *brevet* upon the Farman biplane in the rotten weather described, doing exceptionally well, keeping good altitude, and making splendid landings.

Martin Handasyde monoplanes have been out nearly every day in the hands of Mr. Bell. It is very tantalising to the schools at Brooklands to see Mr. Bell bring out these machines and fly about in winds that keep in all school machines. Vickers School very busy with all machines, getting in a lot of work nearly every day. Capt. Darbyshire, who has been flying straights for some time, does much better, and now flies circuits, right and left hand turns, quite well on No. V. On Friday morning the new Vickers came over from Farnborough, piloted by Mr. MacDonald, who, upon reaching Brooklands, gave the few spectators at that early hour an exhibition of the capabilities and speed of his machine. This machine is



“Flight” Copyright
Mr. Richard T. Gates flying at Hendon on the school Farman.

certainly a great improvement upon their earlier models, and promises to be a great success. Capt. Beatty was seen flying No. 5 nearly every day, and handles it with much ability. The latest acquisition to this school is Blondeau-Hewlett racing Farman, which was out on Friday, Knight and Hunter flying straights over the surrounding country with each of the Vickers pupils and pilots. The new bus with the Chenu engine made its appearance on Friday and flew remarkably well with a passenger. Mr. Bell took her straight up to about 800 feet and went out over Weybridge, and shut his engine off at that height directly over the station and made a long straight glide right into the centre of Brooklands. The firm are to be congratulated upon their machine flying so well at its christening in the air.

Saturday morning there was a lot of flying, mostly being school work. Mr. Sabelli brought out the new Hanriot monoplane, and quickly rose to about 1,000 ft., and flew out in the direction of Woking, when quite suddenly he encountered fog. Thinking, however, that he would soon be through it, kept on for some distance, apparently losing his course. Upon coming down to a low altitude he discovered the railway, and flew over its course for some distance; then he decided to alight to make sure of his direction. Here he experienced worse luck, by mistaking a cornfield for grass, with the disastrous result that the corn, standing some 4 to 5 ft. high, made the machine turn a summersault, with rather bad results to the machine, but fortunately little damage to the unfortunate pilot, except a very black eye and a good shaking.

On Saturday evening a nice little crowd visited Brooklands to witness the flying. About 5 o'clock Mr. Merriam brought out a Bristol, and gave an exhibition of flight close by the people in the enclosure. One marked point about the Brooklands pilots now is, that they do not fly close directly over the public, as is done in so many places. They keep close to the people, but always far enough that should an accident occur no one will be in danger but the pilot. After Mr. Merriam had come out, three or four more machines made an appearance, including Vickers, Burgess-Wright, Farman, Spencer, Martin Handasyde and Avro. The Burgess-Wright, with Mr. Perry on board, flew round, banking very acutely and quickly at corners, and anyone at the enclosure could see nearly its whole surface when banked as it did. Mr. Spencer, slow, but very sure, flew many circuits and carried one or two passengers. The Bristol machines were in force, and having so many pupils on the ground had to pay their sole attention to tuition. Both Mr. Hotchkiss and Mr. Merriam, when they had pupils up behind, showed pretty flying in front of the enclosure. Mr. Hotchkiss was seen to put pupils up in the pilot's seat, and get up into the passenger seat and take them round in circuits as if the pupil were an experienced pilot. Mr. Raynham brought out one of the Avro military machines and put her through her paces with much grace. These machines seem now to be second to none, considering the good work they are doing. Mr. Gordon Bell appeared on the Martin Handasyde and gave an exhibition of flying that could not be surpassed by anyone.

The Bristol machines were in the air continually, and for the whole evening there was not a second without one or more being seen up against the sky. Altogether these school machines made upwards of 30 flights, carrying 25 passengers, which is just about a record of one school's work in one afternoon. Mr. Hotchkiss certainly has his work cut out to keep all his pupils going and getting *brevets* as fast as he does.

Sunday morning the Vickers No. 5 machine came out, and after being tried by Capt. Beatty, Capt. Darbyshire went off for his *brevet*. He flew this machine as well as the machine has ever been flown, and though making rather wide turns, was successful in gaining his ticket in good style. In the evening, while everyone was enjoying tea, a Bristol was brought out by Mr. Hotchkiss, who flew two circuits, but the weather at this time was anything but good, so about half-an-hour elapsed before Mr. Merriam went off carrying a passenger. This seemed to draw other machines, and out came the Burgess-Wright, Farman, Spencer biplane, Capt. Beatty on Vickers V, with wide circuits 400 feet up, Farman and Avro, and all these machines with three Bristol biplanes were continually flying round, most of them carrying passengers till it got too dark to see the ground. Mr. Raynham brought out the new Avro military machine, and put up an exceptionally graceful flight. An amusing incident was caused by Mr. Campbell, who had got a passenger on board the Bristol Solus machine. He flew two circuits nearly, and all the way round the last turn he made he was letting his tail get lower and lower, and everyone's attention was upon him to see what was going to happen, when the machine gradually sank, causing a great splash and pecking into her nose, which notified that he had found, with much success, the sloppiest part of the sewage farm. There was a rush to the edge of the farm to see two poor unfortunate aviators crawling out of the very spicy mud. Notwithstanding their plight, they had to put up with much

sarcasm from the crowd, who only thought it a huge joke. The Martin Handasyde machine coming out just saved the situation, by attracting all attention, as it usually does when it appears. Unfortunately a leaking radiator sprayed Mr. Bell's face with boiling water, which was not at all to be appreciated, so the enclosure was only able to enjoy a very short exhibition. The Bristol machines were continually busy throughout the evening, giving twelve pupils tuition flights, making upwards again of over thirty flights. Just before dark Miss Waldron and Mrs. Cheesman enjoyed their first experience of a flight, in the charge of Mr. Hotchkiss.

On Monday morning the Bristols were out in force as usual, putting in about four hours hard work, with all machines flying continually, and the machines must have flown a mileage of about 180 during the morning. Sopwith's school had their Burgess-Wright and Farman out for school work, the Farman unfortunately getting its chassis choked up by a pupil doing a lovely pancake from about 10 ft.

In the evening, Capt. Beatty on Vickers got in some wide circuits 250 ft. up. Knight went for a straight on same machine, and then for circuits for 20 minutes, followed by Hunter for 20 minutes, with circuits over the surrounding country.

Mr. Raynham brought out the Avro military machine, and after circling the aerodrome twice disappeared on his way to Farnborough at a good altitude.

Perhaps it would be interesting to remark that the Bristol School on Saturday, Sunday and Monday morning made about 165 flights for tuition purposes, mostly carrying pupils as passengers. The last eight *brevets* taken at Brooklands has been accomplished without the slightest smash while the pupils have been learning. A record possibly for school work, and one that will take a lot of beating.

Eastbourne Aerodrome.

LIEUT. MURRAY and Mr. Lerwell have both done a good deal of work last week, and are making excellent progress. On Saturday morning, Fowler was up on the two-seater Blériot with Lieut. Murray as passenger. The afternoon saw Fowler out again, when he took up Lieut. Murray and Messrs. Chapman, Lerwell and Gassler for passenger flights. On his last flight he stalled the machine in getting off and the tail skid was carried away by striking some rough ground. On Monday evening Lieut. Murray and Mr. Lerwell were out for a short time. Lieut. Murray had his first smash on Tuesday morning. He was doing a fast roll with tail well up, when for some reason he suddenly swerved and the strain was too much for the front forks, which buckled, letting the machine down with a crash.

Farnborough (R.F.C.)

MONDAY evening last week Major Burke scouting on BE 1, followed by Capt. Mackworth on BE 5, Major Moss on F 5, all officers flying well; the two BE machines carrying passengers. Tuesday morning slight mist, wind rather inclined to be gusty, flying started about 4.15. Major Burke on BE 1, Capt. Mackworth on BE 5, for long flights, both carrying observers. Major Moss on F 5, also several other officers on F 5, all flying well. All out again in evening, flying finishing about 9 p.m. "Beta" and "Gamma" airships out morning and night, making good trips.

Wednesday morning weather splendid for flying. Major Burke on BE 1, Capt. Mackworth on BE 5, Capt. Reynolds on new Henry Farman, all scouting and carrying observers, Capt. Reynolds on one flight carrying two passengers, machine lifting well. M. Moineau on new 100-h.p. Breguet was doing War Office tests. In the evening some flying. Thursday morning conditions not very good for flying, but Major Burke was out on BE 1, with Major Moss as passenger. Weather too bad in the evening for flying.

Friday morning, flying about 3 a.m., Major Burke on BE 1 with Major Moss as observer, Capt. Reynolds on Henry Farman with Capt. Rayleigh as passenger flying round Blackdown observing operation. Lieut. Harrison on F 5, Mr. De Havilland on BE 2 flew to Salisbury with Major Sykes as passenger. In the evening weather rather bad, Major Burke on BE 1, later Capt. Mackworth on same for 15 mins. flight, he then taking up BE 5 for 20 mins. Several officers also on F 5.

Saturday morning, very misty, but Mr. De Havilland flew back from Salisbury with Major Sykes as passenger, making very good time, coming over at a height of 2,000 ft. Moineau again out on 100-h.p. Breguet on test flights. Airship "Gamma" arrived back from Wormwood Scrubbs. Mr. De Havilland on Breguet B 3 doing some good circuits. Major Burke on BE 1 starting for a flight, machine skidded in sand, and cannonned into F 5, in which Lieut. Harrison was just going to start. Both machines will require to be rebuilt. Capt. Reynolds on Henry Farman given instruction to Major Moss, later Major Moss doing straights, handling machine quite well. In the evening, Major Moss on Henry Farman doing good circuits. Capt. Longcroft on 100-h.p. Breguet flying well, but had a mishap in landing and broke undercarriage.

Monday, Capt. Reynolds on Henry Farman for a 15 mins.



E. Chapillon, who, under the flying name of Aubert, has just passed the tests at the Blériot School, Hendon, for his pilot certificate.

flight, then Major Moss on same machine. Airship "Gamma" out observing troops on a Field day. Mr. De Havilland on BE 4 carrying passengers. New Avro flew from Brooklands and passed tests. Machine flying well, and seems to be very fast. In the evening, Capt. Reynolds on new Farman taking passengers, in one flight taking two passengers up about 600 ft. This machine takes two as easily as one. Lieut. Sheppard and Cockrell doing straights on BE 5.

Tuesday morning very misty, Major Burke on BE 5, followed by Cockrell on same machine, doing straights, but in landing brought machine down on its nose, luckily without personal injury. Machine considerably damaged. Mr. De Havilland out on BE 4.

London Aerodrome, Collindale Avenue, Hendon.

Grahame-White School.—The school, waking to a fine morning on Monday last week, turned out in force at 4 o'clock, when M. Noel went for a test. Finding all well, he handed over to Capt. Salmond, who made several excellent circuits, being now ready for his *brevet*. Mr. Roupell, meanwhile, took out the 25-h.p. Anzani-Blériot to continue his rolling practice, in which he improves rapidly. On the Farman (No. 7) Mr. Wynne did some straights, and Lieut. Stopford made his first attempts, under the steadying influence of Mr. Blackburn. After him came Mr. Hoelscher, with M. Noel to watch over him, and then Lieut. Rathbone and Mr. Cholmondeley, also with M. Noel. Wind now rather puffy, so Capt. Salmond and Mr. Wynne only on straights. Lieut. Stopford, Mr. Hoelscher, and Mr. Cholmondeley repeating their former efforts, while Mr. Roupell, after a few minutes' rest, went out for a second long lesson on the Blériot. Lieut. Rathbone out again with M. Noel, but landed with a sideways drift, breaking a radius-rod. This repaired, and Capt. Nicholas out, smashing most of the chassis in a pancake after his second straight.

In the evening, Mr. Roupell out again, but broke a wire after 9 mins., and had to put in for repairs. Mr. Wynne again making very good straights on No. 7, and Mr. Hoelscher and Mr. Cholmondeley up with Mr. Travers. Baroness Schenk making excellent straights, but after landing hurriedly to avoid some people had to turn sharply on the ground, the strain on the tail skid severely damaging the tail cellule.

On Thursday, school out at 4.15 a.m. Mr. Cholmondeley going up with M. Noel behind him, and after making his first solo flights (in which he showed great promise). Then Capt. Salmond out for 12 mins., doing circuits, and Mr. Wynne doing straights. Unfortunately some time now had to be spent in taking up slack in an aileron wire, and after this the wind was too puffy for pupils.

No biplane school Saturday, as engine badly in need of cleaning, Mr. Fowler, however, getting in an hour's practice on Anzani-Blériot.

On Sunday, the weather-club and the imps of chance again permitted a splendid show of flying at Hendon. Proceedings commenced at 3.25, when Mr. Lewis Turner took out the school 'bus (No. 7) and made a very fine flight of 10 minutes, finding things not very easy, in spite of a calm, for his engine was pulling badly. As he descended, Mr. Nardini took up the Gnome Deperdussin of historic memory, and steered it over the surrounding country, while Mr. Gates showed what a good flier can do with a

heavy school machine, making a flight of 20 minutes. While both were still up, M. Verrier commenced his usual Sunday performance—passenger climbs in by ladder, quick rise to 400 ft—two circuits—magnificent landing—passenger descends by ladder, repeat *da capo ad lib*.

About 4 o'clock Mr. Grahame-White took out the old 'bus, to see what the air was like. After this the spectators had a monoplane exhibition, Mr. Astley taking out the "Gordon Bennett" Blériot for a quarter of an hour, followed by Mr. Hamel, who made a most daring exhibition, which was at an unfortunate time, for most of the visitors were having tea when he started, and the qualms produced in the experienced by spiral dives overhead combined with tennis cake amidships must have been indeed awful.

About 5.30 there was another rare sight—for it is not often that one can see flying at once three such flyers as Mr. Grahame-White, Mr. Hamel and M. Verrier, on three such fine machines as a new Henry Farman, a new Blériot, and a new Maurice Farman. A few minutes after Mr. Astley again took out the old Blériot, flying over to Mill Hill and back, while Mr. Grahame-White entertained a few of his friends by flights in his new machine.

A third exhibition by Mr. Hamel concluded the excitements of the day, except for a long string of passengers who took rides with M. Noel.

Blériot School.—School started at 6 a.m. Monday last week, when Messrs. Sacchi, Hall, and Teulade were out on L B 2, each doing a couple of good straights before the wind rose and put a stop to work until the evening, when MM. Gandillon and Teulade put in some more work. The former did three rolls on L B 1, with the tail nicely up, and the latter three good straights on L B 2. Tuesday and Wednesday were blank days for school work owing to the bad weather. Next day, M. Sacchi had L B 2 out in the early morning, and did three good straights. Friday, again too much wind for pupils all day, and Saturday, weather quite good, but no work possible owing to weekly race meeting.

Deperdussin School.—On Monday, last week, day's work of school started with solo flights by R. W. Gill and Brock. Both did neat straights, after which Harrison, Capt. Dawes, Capt. "X," Lieut. Tucker practising on taxi.

All pupils out Tuesday doing straights on taxi and R. W. Gill, Brock and Harrison short flights on racer.

Wednesday, Capt. "X" and Lieut. Tucker busy on School Deperdussin, and Capt. Dawes also making progress. In evening R. W. Gill on racer doing a few circuits in good style. Next day Harrison, Brock, Capt. Dawes and Capt. "X" rolling on Deperdussin. R. W. Gill doing more straight flights on racer. Friday early morning all pupils out, Harrison, Lieut. Tucker and Capt. "X" rolling on taxi and Brock hopping on same machine. R. W. Gill doing straight flights on racer.

W. H. Ewen School.—Little school work last week except on Monday, when the school started at 5 o'clock. Beaumann flew



The "Terrible Five," being some prominent aviation men at Salisbury. From left to right: Messrs. England, Barnwell, Lindsay Campbell,* Greig and Sydney Pickles* (* Australian monoplane pupils), and the machine they fly.

two circuits on the Deperdussin, and landed with a fine *vol plané*. He then made two figures of eight, and as the wind was getting up he landed.

On Sunday, Ware was on the new Blériot making some good flights. Aparcar was also flying well, while Lawford, the James brothers and Gist were doing good straight rolls. Warren flew the new Blériot and Mr. Ewen was giving instructions.

Mr. Ewen returned to the aerodrome on Saturday, with his 60 two-seater Caudron biplane, which is being cleaned and reassembled.

Salisbury Plain.

Bristol School.—On account of the school having been transferred to Brooklands, during the Military Trials, together with most of the machines, there has been very little flying.

Nothing was done Monday morning, but Busteed was out in the evening, making a splendid flight on the Bristol monoplane. Both Gordon England and Pixton were also out on a Bristol tractor biplane. Tuesday morning Busteed was carrying out a good flight. In the evening, some really fine flying was seen, Messrs. Busteed, Pixton and Gordon England being in the air, the first on a Bristol monoplane, and the others on tractor biplanes. The wind was much too bad for flying Wednesday. Mr. Pixton was first out Thursday morning, ascending in one of the Bristol monoplanes with a mechanic as passenger, and carrying out a good flight. Busteed was on a Bristol monoplane, completing a couple of circuits, Busteed being again out in the evening, making a test of one of the school monoplanes, which had been slightly altered at the hangars. Wind bad Friday, Busteed out in the morning. Mr. Bettington passed the necessary tests for his certificate in good style on one of the Bristol monoplanes (two-seater). Busteed again out later, followed by Pixton and Gordon England. Exceptionally good flying was seen on Sunday, Busteed and Pixton both flying monoplanes, the latter also ascending in a tractor biplane. Gordon England during some good flights carried Mr. Barnwell as passenger.

Royal Flying Corps.—Tuesday of last week was ideal for outdoor work, and the officers' corps put in a lot of fine scouting practice. There were three visitors from Upavon—Col. Cook on the Avro biplane, Capt. Gerrard on a Short-Wright biplane with a passenger, Capt. Gordon, and Lieut. Longmore, R.N., on a Short-

Wright biplane. Before returning, Lieut. Longmore, R.N., took up Lieut. Connor as passenger for a good flight. Capt. Hamilton, on the Deperdussin, made one or two flights, during which he sent some messages by means of a Klaxon horn. He afterwards took up a passenger. Sergt. Ridd was on biplane F 8, making two useful flights, and Sapper McCudden put up a good trial on F 8. Sapper Strugnell did well in the tests for his *brevet*. Capt. Carden was on the Dunne biplane, but had the misfortune on landing to damage the back skid, fuselage, and propeller.

On Wednesday a pupil was out rolling when the wind caught the right side of the machine, turning it over and breaking the left plane. Capt. Hamilton, on the Deperdussin monoplane, was doing plenty of scouting practice around the camps at a good height, and made some pretty landings. He was followed by Major Brooke-Popham on the Avro. On taking off the wind caught his machine, but the pilot had no difficulty in righting it in his usual skilful manner.

On Thursday Major Brooke-Popham was on the Avro biplane making several good flights—flying around the camps, taking up passengers. He was followed by Capt. Hamilton on the Deperdussin. Major Brooke-Popham was also out for 15 minutes on the Avro on Friday, putting in some scouting practice. Lieut. De Havilland arrived at 6.10 a.m. from Farnborough on BE. 2 biplane, flying at a good height with Major Sykes as passenger. Major Brooke-Popham and De Havilland were out again in the evening when the weather was very dull with a strong wind blowing. Both made good flights, although there was a lot of drift on covering circuits over the Central Flying School at Upavon.

On Saturday morning early Lieut. De Havilland, climbing very quickly to a good height, left for Farnborough on BE. 2 biplane. No further outdoor work was done, owing to rain, and no flying was put in on Sunday. Lieut. Lawrence has joined the R.F.C. at Lark Hill.

Major Brooke-Popham was on the Avro on Monday morning, and in one flight took up Lieut. Lawrence as passenger, and the latter did some signalling with coloured balls. Lieut. Fox and Lieut. Connor were also taken up for trips around the Central Flying School at Upavon, Tidworth and Bulford Camp. Capt. Hamilton was out on the Deperdussin doing useful scouting work around the plains, taking up several passengers, although having trouble with his engine.

BRITISH NOTES OF THE WEEK.

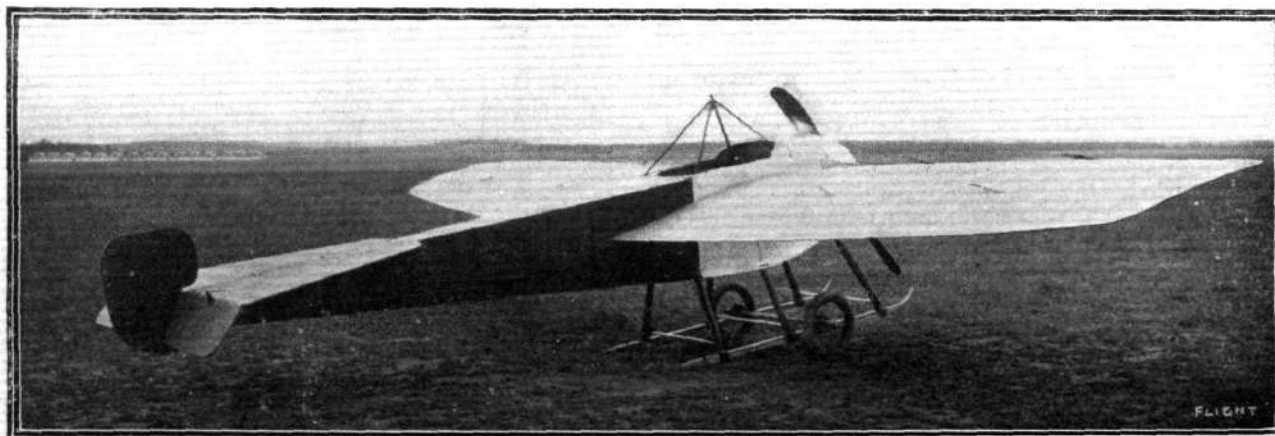
Progress of the Bristol Co.

SPEAKING at the Annual General Meeting of the Bristol and West of England Aero Club, Sir George White, Bart., said as they looked upon aviation largely from the Bristol point of view it might interest the members to know that the British and Colonial Aeroplane Co. had received orders for the building of aeroplanes from no fewer than eight Governments. At the present time the industry was in such a flourishing condition that between 200 and 300 men were employed in the work of constructing aeroplanes, and that, after only about 18 months, was a very good commencement, and it looked as if the industry were going to be a very large one in the city of Bristol before very long.

Mr. Slack's Tour of Great Britain.

MR. ROBERT B. SLACK, who is touring the country on a 50-h.p. Gnome-Blériot, is having some exciting experiences, and a *résumé* to hand of his work since the start is as follows:—He left Hendon on June 16th and arrived at Bedford in 38 mins. Two

days later he started for Leicester, but was brought down at Foxton near Market Harborough, by the wind, and did not continue to Thurmaston, near Leicester, until the 26th ult. Then on the following day he went on to Nottingham, from whence he started again on the 28th for Birmingham. Engine trouble, however, necessitated a landing in a hayfield at Ravenstone, a few miles south-east of Ashby-de-la-Zouch, and the machine had to be pegged down in the field for the night. At noon the next day, immediately after a thunderstorm, Slack started for Birmingham, but he had been in the air only a quarter of an hour, and was passing over Atherstone, when he ran into another thunderstorm, which caused him to stop at Arley. He started again at 4 p.m., and after a few minutes' flying ran into the worst thunderstorm of the day, but was eventually able to reach his destination at Castle Bromwich on Saturday afternoon. A fresh start was made from there on July 4th for Stafford, and when crossing Cannock Chase on the way he was considerably buffeted, but reached Stone Flat near Stratford Common Station safely, having taken 24½ mins. for the trip of 26½ miles. On July



The latest 3-seater Hanriot monoplane.

6th he departed for Manchester, and after a trip of 43 miles at 60 m.p.h., landed at the Didsbury ground, from which point he went on to Southport late on the following Monday evening. Just by Wigan he ran into a thick mist, and shortly afterwards had to negotiate a 40-m.p.h. gale, which accounted for the fact that he took 55 mins. to cover 36½ miles. He came down on the sands north of the pier, and was carried to the Southport Aerodrome shoulder high. Attempts to get to Lancaster on the 11th and 12th inst. proved abortive owing to the rain, although on the second day Slack got fourteen miles on his journey before turning back. Another attempt was made on the 14th, but six miles after the start a thick fog necessitated a return. About 6 p.m., however, there was a change in the weather and advantage was at once taken of it; rising to a height of 80 ft. Slack steered along the coast past Blackpool and Fleetwood to Morecambe, where he turned inland for the county town. He circled Lancaster before attempting to land at Scala Hill Farm, and the number of people on the designated landing place made it necessary to pass by and come down in an adjoining field. On the 15th Lancaster was left for Carlisle and going out to Morecambe Bay the Blériot was piloted along the Furness coast past Barrow and Millom and along the Furness Railway. Near St. Bees dense mists were encountered and a descent was decided upon at Egremont after a circuitous route of nearly 10 miles. On July 16th a re-start was made from this point, and flying along the railway past Whitehaven, Maryport, and Wigtown, Carlisle was reached after about nine or ten minutes in the air and a safe descent made at the old racecourse by the side of the River Eden.

The Daily Mail Demonstrations.

On the 18th inst. Mr. B. C. Hucks went on his Blériot from Chesterfield to Nottingham, where he made another flight in the evening. M. Salmét, recovered from his illness, resumed his tour, and started from Cardiff for Ross-on-Wye, but was forced down at Raglan, Mon., by engine trouble. In the south, M. Fischer gave several demonstration flights at Bournemouth on the H. Farman hydro-aeroplane, taking up many passengers, including the Mayor of Bournemouth, Mr. S. McCalmont Hill. The following day the wind prevented more than two passenger flights being made by Fischer, but M. Salmét was able to complete his journey to Ross. Bad weather rendered it impossible for much flying to be done on Saturday. Although Salmét made a flight at Ross in the morning and went on to Hereford, he was unable to fly on to Worcester in the evening, and Mr. Hucks was also kept at Nottingham by wind and rain.

On Monday M. Fischer, after giving some passenger flights at Bournemouth, flew on the Farman hydro-aeroplane, accompanied by M. Hubert, from Bournemouth to Weymouth, although the conditions were none too good. Several flights with passengers were made at Weymouth on Tuesday.

Exhibition Flying by Brereton.

On Monday morning the 15th inst., Brereton at Bridlington made five excellent flights of about half hour's duration each, on his 50-h.p. Gnome-Blackburn. He ascended from the golf links and circled out over the Bay reaching an altitude of 2,000 ft. He did several figures of eight over the water, and then circled round Bridlington inland. This is the first time that Bridlington has had the pleasure of witnessing flights in the Bay, and the thousands of people who lined the promenade and piers were very enthusiastic in showing their appreciation.

On Wednesday Brereton was booked at the Lincolnshire Agricultural Show at Skegness for the remainder of the week. He made a pretty circuit on Thursday in spite of the bad weather, rising from the show ground and striking out to sea, circling round the town and then alighting at the starting place. This again is the first aeroplane flight witnessed in Skegness district.

Bristol and West of England Aero Club.

THE annual general meeting of the club was held in the club rooms at the Clifton Down Hotel, on July 18th, when Sir George White, president of the club, was in the chair. In his annual report, the Hon. Sec., Mr. A. Alan Jenkins, briefly reviewed the work of the past year, especially mentioning the great help received from the British and Colonial Aeroplane Co., Ltd., in connection with the local arrangements for the *Daily Mail* circuit, which were in charge of the club. He

also referred to the proposal to establish a model section, which would bring some younger members into the club. He said they had been unsuccessful in their search for a suitable flying ground, but if such a piece of ground could be secured it should assure the success of the club. He also pointed out that the balance-sheet showed that the club was in a satisfactory condition financially.

Sir George White remarked that the science of aviation had developed very much and was likely to receive a great impetus during the coming year, and he thought that if the members of the club followed the events of the next year or so they would feel amply repaid for the interest they had taken in flying. In England there seemed to have been an awakening, and the Government were undoubtedly intending to make great strides. That day he had visited Salisbury Plain, and he saw there plain evidence of the fact in the great establishments which the Navy and Army were organising there. There was a very large number of sheds, and altogether there was evidence that the Government intended to proceed upon a large scale for the development of aviation in the Navy and the Army. The military trials would probably be proceeding during the whole of next month at Salisbury Plain, and would be of interest to all. He need hardly say that if the members of the Aero Club were up there the British and Colonial Aeroplane Co. would be anxious not only to afford them every facility, but, he hoped, a little hospitality as well. He felt sure they would freely accord any assistance to the model section which it was proposed to form. In conclusion, Sir George congratulated the club upon the excellent position in which it stood, with a satisfactory balance in hand, and he believed, with a future which was likely to satisfy all their anticipations.

The officers were re-elected with the exception of Sir Herbert Ashman, who had resigned his vice-presidency, and Mr. J. Weston Stevens was elected to succeed him. The rules for the proposed model section were approved.

W. H. Ewen Gains his Case.

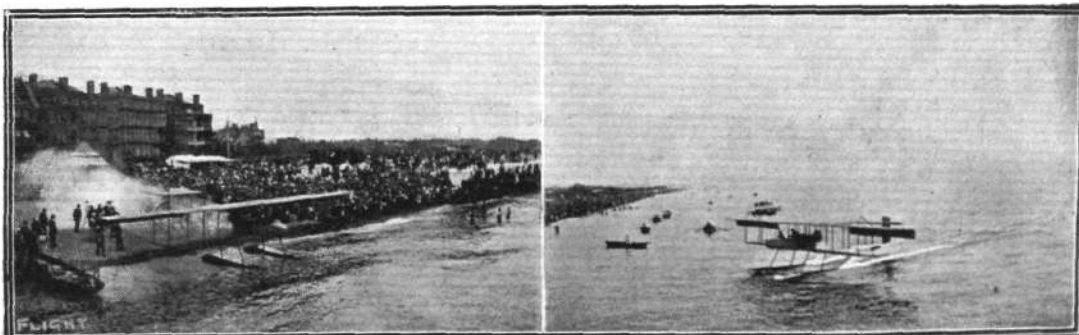
WE are glad to see that a decision has been granted in favour of Mr. W. H. Ewen in the law case he brought against the Kirkcaldy Horticultural Society for their refusal to pay him the terms stipulated in the contract for his giving an exhibition flight at the Raith Flower Show on August 18th, 1911. The terms of the contract provided that the aviator should be paid a sum of £50 on his aeroplane arriving at the grounds, and should be paid a further sum of £50 on completion of the two flights he had arranged to make if the weather permitted. Unfortunately the weather was too boisterous for flying, Mr. Ewen despite the wind, however, consented to roll and hop the machine, to at least give the crowd a chance of seeing an aeroplane in motion. In doing so he had the misfortune to break a spindle, which it was impossible to get replaced that day. Apparently on this point the Society based their contention that the machine was not capable of flying. The Sheriff, however, was of the opinion that the machine could fly, this we all know perfectly well, and decided that Mr. Ewen was justified in his claim for the £50 for having his machine on the ground. Judgment was therefore given in his favour. He was further awarded his expenses.

Aeroplane, Third of the Seven Wonders.

ACCORDING to a referendum made by a Chicago magazine among a thousand prominent men of science, the aeroplane is the third of the seven wonders of the world. Wireless telegraphy takes pride of place and the telephone obtained the second largest number of votes, while radium was fourth on the list.

Where There's a Will, &c.

HAVING had her appeal to the Alien Immigration Board for permission to re-enter this country, after being deported, refused, a young German woman passionately declared that she would return in an aeroplane.



THE HENRY FARMAN HYDRO-AEROPLANE AT SOUTHSEA.—A couple of snaps taken with a vest pocket Kodak by Horace J. Everett.

FOREIGN AVIATION NEWS.

Another Machine for French Navy.

ADMIRAL AUBERT, accompanied by several other naval officers, visited Buc on the 18th inst. in order to formally take over a Henry Farman biplane for the French Navy, which will be piloted by Naval Ensign Fournie. The machine, with Chevillard at the tiller, carried out its tests to the satisfaction of the visitors.

A Reconnaissance at Rheims.

ON his Blériot-Gnome machine, Lieut. Gaubert made a scouting flight from Rheims to Sissonne and back on the 18th inst., covering a distance of 80 kiloms. in 50 mins., generally at a height of 1,000 metres.

Aeroplane Instead of Train.

INTENDING to have another try for the Michelin "Aero Cible" prizes, Renaux, accompanied by his wife, flew over from Buc to Chalons on the 18th inst. on his Maurice Farman machine.

A New Hanriot Superior Pilot.

OVER a 200-kilom. course from Rheims to Mailly Camp and back, Lieut. Germain on his Hanriot machine made the first test for his military *brevet* on the 17th inst. Later in the day he made the second test by going from Rheims to Versailles. During the day he covered 360 kiloms.

Helen to Try for Michelin Cup.

WITH the approach of closing date of this year's competition for the International Michelin Cup, those who have an eye upon it are getting busy. Helen will shortly make an attempt, flying on a 100-h.p. Military Nieuport, over a trefoil course from Buc as a centre. He intends to start at 3 a.m. and continue until 8.30 p.m.

A Siamese Nieuport Pupil.

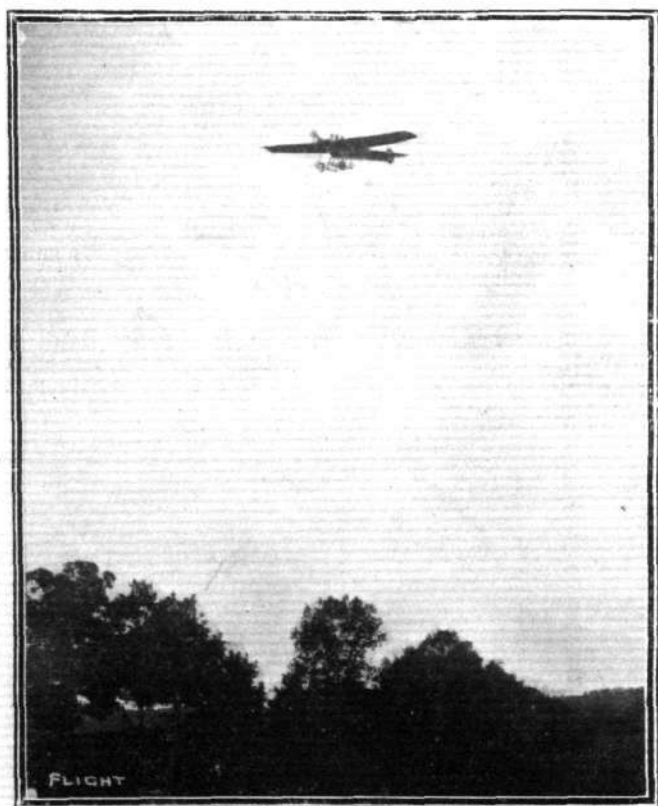
ON the 19th inst., among the new pupils to arrive at the Nieuport school at Chalons Camp was a delegate of the Siamese Government, named Arivood. He was taken for a trip by *chef pilote* Barillon, and made his first attempt at rolling during the afternoon.

An Hour on a Nieuport.

AT Mourmelon, on the 19th inst., Lieut. Delevoye was flying on his military Nieuport for over an hour, during which his altitude averaged about 800 metres.

Long Flight on a Sommer.

ON a Renault-engined Sommer biplane, Burri was flying for four hours early on the morning of the 19th. Starting from Mourmelon he circled over Rheims, Epernay, Chalons, Suippes and Sommepey. He made a similar flight in the afternoon, and took a passenger up to 2,000 metres.



The latest 3-seater Hanriot monoplane in flight.—In this picture the three heads of the occupants are plainly visible.

Chartres to Juvisy on a Savary.

LEAVING Chartres on his Savary biplane, Frantz, on the 20th, went over to Juvisy, making a stop *en route* at St. Cyr. The last part of the trip was made in 6½ mins.

More M. Farman Superior Pilots.

AT the beginning of last week Lieut. Vogoyeau made one of the tests for his superior *brevet* over a course from Buc to just by Peronne. On the 16th Lieut. Gleizes made his first test over a course from Buc to Chartres, Orleans and back, and Lieuts. Thomas and Couret also made trials. Lieut. Thomas made further tests on the following day, while Lieut. Vogoyeau finished on the 18th inst.

Long Trip on a Deperdussin.

ON his Deperdussin monoplane on Monday week Lieut. Lalanne went from the Champagne aerodrome by Rheims to Mailly Camp and Vouziers, covering 230 kiloms in 2 hrs. 10 mins. Two days later he flew from Rheims to St. Cyr and then back to Rheims.

New Blériot Superior Pilots.

ON the 17th at Etampes on their Blériot machines, Capt. Faure and Lieut. Jacquet made the second trial for their superior *brevets* flying over a course to Tours, and Roger Morin made his first trial over the same course. Two days later the pilots, with Lieut. Perillon went to Chateaurenault where Morin had a smash through getting in a *remous*.

Capt. Clavenad Arrested for Outspoken Opinion.

FOLLOWING on the publication in a Parisian daily paper of an article signed by Capt. Clavenad, commanding the aviation centre at Casablanca, and accusing the military authorities of not properly availing themselves of the services of the aviators in Morocco, that officer has been punished. Col. Hirschauer, the Inspector-General of Aeronautics, inflicted a punishment of thirty days' arrest for the breach of discipline, and the Minister of War has since increased it to forty-five days. In the meantime, the officer has been detached from the Aviation Corps and sent back to his own regiment.

The Michelin Target Prizes.

THE ninth tests for the Michelin Target Prizes were held at Chalons Camp on Saturday and Sunday last. On the first day, Lieut. Varcin, on a Farman, placed ten out of fifteen missiles on the target, and Gaubert, on an Astra-Wright, accompanied by Lieut. Scott, bettered this with eleven out of fifteen. On Sunday, trials were made by Lieuts. Battini, Bousquet, Lucca, Mailfert, and Varcin, and pilots Gaubert, Labouret, and Renaux, but the records of the previous day were not surpassed. Gaubert now leads in the contest with his record.

A Meeting at Juvisy.

ON Sunday afternoon a flying meeting was held at the Juvisy Aerodrome, when between half-past four and half-past seven eighteen pilots were seen in the air. Eight competitions were arranged, including starting, stability, landing, *vol plane*, cross-country, bomb-dropping, passenger, &c. A cross-country race from Juvisy to Corbeil and back was won by Gastinger, who took 7 mins. 8½ secs. for the 18 kiloms. trip. The landing competitions were won by Molla on his R.E.P. for the monoplanes, and Champel on his own biplane for this type of machine. Prevost won the "get-off" competition for the monoplanes, while the best of the biplanes was a Goupy, piloted by Vergniau. Gastinger and Champel shared the target prizes, and Poulain the passenger awards, and in a balloon destroying contest Prevost was first, bagging three balloons in 7 mins. 45 secs.

Voyaging on a Deperdussin.

CONTINUING his series of cross-country flights on a Deperdussin, Lieut. Courlez, on Sunday, went from Belfort to Besançon, and later continued to Dijon and Villacoublay.

A New Henry Farman Biplane.

IN the presence of several French Army officers Mr. Henry Farman carried out some demonstrations with his latest military biplane. It is a small machine, but fitted with a 70-h.p. Gnome motor, it carried pilot and passenger and 50 kilogs of petrol, and attained a speed of 115 k.p.h. As to rising power, he went up 100 metres in 45 secs. An important point for military purposes is that it can be dismantled and packed up in 7 mins. 15 secs.

An Escadrille at Casablanca.

ON the 20th an escadrille of three Blériot monoplanes piloted by Lieuts. Tuetarre, Do Hu, and Van den Vaero, arrived at Casablanca from Rabat. As the hangars are not yet finished the machines had to be pegged down in the open.

A Kite Competition in Belgium.

UNDER the patronage of H.M. the King of Belgium and the Belgian Aero Club, international competitions for kites are to be held at Spa from August 18th to 25th next, and prizes amounting to 15,000 francs are offered. There will be contests for man-lifting kites and for those carrying photographic apparatus, as well as the usual efficiency, height, and launching competitions.

Hydro-aeroplaning in Greece.

A FEW further particulars are to hand regarding the flights made from Athens by Lieut. Kamberos on the 8th inst., recently referred to in FLIGHT. Leaving Phaleron, just by Athens, he flew on his H. Farman biplane, transformed into a hydro-aeroplane, across to Hydra Island, and although going against a strong wind he made the 50-mile trip in 43 mins. He returned to Athens on the following day.

Austrian Government and Record Machine.

A PRINTER'S error crept into the paragraph in last week's issue regarding the purchase of Lieut. Blaschke's Lohner-Arrow biplane by the Austrian Government. The price paid was 35,000 kronen (£1,458), and, needless to say, not £35,000.

The Berlin-St. Petersburg Flight.

HAVING repaired his machine at Posen, Abramovitch resumed his flight to the Russian capital on the 17th inst., and landed at Königsberg, where both pilot and passenger were arrested by the local police on suspicion of being spies. They were released later, on instructions from Berlin, and the next day flew over the frontier, and reached Szillen. From there they went on to Taurögen on the 21st.

Long Trips in Germany.

ON Sunday, Lieuts. Keller and Reinhardt, each accompanied by a passenger, made the 300-kilom. journey from Beppen to Frankfurt-on-Main, landing on the way at Zewbrücken.

Fatalities in Germany and Russia.

WHILE flying for his pilot's certificate on the Lindenthal flying ground, near Leipzig, on the 18th inst., Lieut. Preusser apparently lost control of his machine which fell to the ground and the pilot sustained such injuries that he died within a few minutes. On the previous day at Sebastopol Lieut. Zakutzky met with a fatal accident.

Cross-Country Flying in Russia.

CONTINUING his journey from Sebastopol, Lieut. Lybowsky, on a Farman biplane, left Moscow on the 15th inst. He reached Tsarskoie-Selo three days later, and then went on to the camp at Krasnoc-Selo and to the flying ground at St. Petersburg, where he was welcomed by General Kaulbars on behalf of the Grand Duke Alexander Michaelovitch.

A Fire at Sebastopol.

SAID to be due to an explosion of petrol, a serious fire occurred on Monday at the Russian military flying school. Sheds containing four aeroplanes and three motor cars were destroyed as well as the workshops.



NEW RECORDS.

Legagneux Regains Passenger Speed Records.

THE passenger speed records did not stand long to the credit of Frey and his Hanriot machine, as on the 20th inst., at Compiègne, Legagneux made another attempt on the Zens monoplane, and trimmed them down considerably. The new figures are as follows, the old times being given in brackets:—

	m. s.	m. s.		h. m. s.	h. m. s.
10 kils.	... 4 24½	(4 30½)	50 kils.	... 0 22 13	(0 22 31½)
20 "	... 8 51	(9 1)	100 "	... 0 44 36½	(0 44 56½)
30 "	... 13 18½	(13 30)	150 "	... 1 7 10	(1 7 19)
40 "	... 17 44½	(18 1)			
½ hour...	31'020 kils.		1 hour...	136'695 kils.	
Average speed ...	Over 150 kils.			133'995 k.p.h.	

New World's Records.

THE Austrian Aero Club have now passed the following world's records made at the Vienna meeting:—

Height with two passengers, Lieut. Blaschke 3,580 metres (old record, Prevost, 2,000 metres).

Height with one passenger, Lieut. Blaschke 4,360 metres (old record, Prevost, 2,700 metres).

Vertical speed, Garros, 1,000 metres in 4 mins. 56 secs.

Speed with two passengers, Ch. Nieuport, 5 kiloms., 5 mins. 45 secs.

The world's height record, pilot only, stands to the credit of Garros with 3,910 metres.

AIRSHIP NEWS.

The "Gamma" at Wormwood Scrubs.

ON the 18th inst., the Army airship "Gamma" left Aldershot for Chatham, but was brought down by a storm at Wormwood Scrubs, where the dirigible was docked in the *Daily Mail* shed, as recorded elsewhere.

"Clement-Bayard III" Over the Sea.

DURING the course of a sixteen-hour voyage on the 16th and 17th inst. the "Clement-Bayard III" on leaving her headquarters at La Motte Brueil soon after 8 p.m. passed over Paris and made her way to Havre, where she cruised over the bay about midnight and then made her way to Rouen, which was reached at 7.30 a.m., and went on to Beauvais and Compiègne. A landing was effected at La Motte Brueil at one o'clock, at which time the dirigible had been in the air 16 hrs. 27 mins. and covered more than 700 kilometres.

Long Voyages by the "Victoria Louise."

WITH eighteen passengers on board the Zeppelin dirigible "Victoria Louise" went from Hamburg to Frankfurt in eight hours on the 16th inst. On the following day she made another trip of seven hours, during which she carried some mails, the commander of the airship being appointed a Postmaster for the time being.

Trial Trips with "Zeppelin III."

LEAVING Oos near Baden Baden on Friday evening of last week the "Z. III" cruised over Metz and Strasburg and landed again at Oos the following evening after being in the air for eighteen hours. On Tuesday after carrying out speed trials during which she attained a speed of 50 miles an hour the dirigible was taken over by the German War Office authorities.

Another Dirigible for War in Tripoli.

AT the end of last week several trials were made with dirigible "M I," a new dirigible which the Italian Government is sending to the front. These flights included bomb-dropping tests, carried out between Bracciano and Rome, and bomb-dropping on to two destroyers in the Port of Anzio.



AERONAUTICAL SOCIETY OF GREAT BRITAIN.

Official Notices.

Wilbur Wright Memorial Fund.—The following subscriptions have been received:—Amount previously acknowledged, £439 11s. 6d.; Estate of the late C. S. Grace, £10 10s.; Royal Aero Club, £10 10s.; R. Runge, £10; Mrs. Wenham, £1 1s.; Harry F. Jackson, 3s. Total, £471 15s. 6d.



Why Worry?

EXHIBITION flying is enjoying such a boom this season that it is not surprising to see one firm, Messrs. Aeros, Ltd., have sprung into existence for the main purpose of easing the work of the exhibition promoter. He has not to worry his head over finding a pilot and a machine to fly for him, his is simply to arrange the ground, entrances, and enclosures. Messrs. Aeros, Ltd., say they will do the rest—they will find the man and the machine and send him along to do what flying is required for an inclusive fee.

This, however, is not the extent of their operations—they deal in new and second-hand aeroplanes and accessories of every kind for the aviator. They have also a department devoted to insurance as applied to aviation.

Mr. Neville A. Feary is their manager, and they could scarcely have picked on one with a greater all round experience of aviation. He built a monoplane of his own in 1909, and has been well in the running ever since. The firm's offices are at 39, St. James's Street, Piccadilly, W. Their 'phone number, Gerrard 1,293.

A Model Catalogue.

MESSRS. MANN AND GRIMMER, makers of the Mann model monoplanes, have now published their catalogue—and a most excellent publication it is—which besides containing full particulars and details of their standard monoplane and tractorplane, gives a good deal of information regarding the development of these machines. The machines, it may be mentioned, are sold either made up complete or the sets of parts may be obtained and put together by the experimenter himself, thus enabling him to get, besides instruction, a great deal more fun out of the work. It should be noted that every model sold is guaranteed to fly a minimum distance of a quarter of a mile. Copies can be had for 6d., post free, from Messrs. Mann and Grimmer, Arlington Road, Surbiton.



Conducted by V. E. JOHNSON, M.A.

Model Flying in America.

WE have received from the Aeronautical Bureau of New York a communication and newspaper cutting from which we extract the following items, which will, we think, prove of interest to the readers of FLIGHT.

"The first model aeroplane organisation in America was started in February, 1907, and was known as the Junior Aero Club of the United States. The first public exhibition of models that attracted any attention was held in New York, December, 1908. There had been prior to that a model flight contest. The first outdoor contest was held November 6th, 1909, the winning model travelling a distance of 92 ft. The year 1910 ended with Percy Winslow Pierce winning the 'A. Leo Stevens' Year Cup' with a flight (rising from the ground) of 222 ft. This contest was held indoors; soon afterwards permission was obtained to fly models in Van Cortlandt's Park, New York, and on the Polo Ground, where every Saturday since (weather permitting) contests have been held. Percy Pierce is to-day the all-round champion of America (including Canada), and his official records are, hand launched (twin-propeller) monoplane, weight 1½ ozs., 1,814 ft. 6 ins. [This is beaten, however, by R. G. Robinson's 1,895 ft. (San Francisco California), and also by Selley's 2,653 ft.] December 28th, 1911. On December 29th, 1911, a self-rising model of his flew 412 ft., his duration record hand-launched model is 91 secs. The New York Model Aero Club was organised in September, 1910; it meets at the rooms of the Aeronautical Society, No. 250, West 54th Street, New York, every Saturday night. The contests at Van Cortlandt Park are open to anyone in the United States and Canada, without entrance fee. The majority of the clubs are organised by students of high schools, and by a few of the Universities throughout the United States. Percy Pierce, who is now the model Editor of the American *Aeronautics*, was one of the first members of the Junior Aero Club, at the age of twelve."

We also learn that "some time since January last (date not given), J. F. Macmahon flew 2,003 ft. in an official contest, which record stood until May 18th; also that the leading duration flyer is N. Metzger, 83½ secs., which record has not yet been beaten officially. [What about Pierce's 91 secs.?] F. W. Walton, who makes his own models, and who commenced model building December, 1910, has won thirteen prizes in sixteen contests, including one tied for first place, one third in an open event, one fourth in an open event. He can probably claim a world's record for his age, as he will not be 12 until September 21st next.

"The following are some of his best duration and distance flights: 73, 76½, 77, 78 secs.; 1,423 ft., 2,019 ft., 2,188 ft., the last of which gives him second place in distance contests officially, for America—the record being held by Armour Selley, 2,653 ft., made June 23rd, 1912."

Any comparison between English and American official distance records is not possible, as no allowance is made in America for the velocity of the wind. The sender of the communication—whose name we are unable to publish, as he has omitted to sign it—observes, "in America there is not sufficient attention paid to the instruction of young novices; we find that wherever it is looked after surprising results follow, personally we are very much interested in young boys, as we feel that the older ones can get on very well without much instruction and guidance." There is no doubt that much more might be done in Great Britain to encourage juveniles—it is not so much a case of books or special articles in papers as personal guidance and instruction that is wanted. It is a case for the Model Aero Clubs, of which so many have been formed here within the past six to nine months. As to how many in the end will be able to justify their existence remains to be seen, but here is certainly a means of doing it. We have personally known more than one flourishing and old-established school come to grief through growing too large (in its own estimation) to properly look after its junior department, in some cases trying, with fatal results, to dispense with it altogether. And every model aero club is a school, or should be such, if it is not; or if it is all masters and no pupils its career may be brilliant but it will be brief, and its end, probably a somewhat violent one, is only a matter of time, and not a prolonged time at that.

Aero-Model's Association (Northern Branch).

We learn from the secretary, Mr. Malcolm B. Ross, that he has been successful in his efforts to bring about the amalgamation of the above club with the Palmer's Green Aero Club—the amalgamated

club now possessing two flying grounds. All the contests will take place at Finchley, and on Saturday afternoon flying practice will be carried on at Bowes Road, Palmer's Green. Additional advantages can now be given to members owing to the consequent increase in the club's funds, due to increase of membership. The club was founded December, 1910, by some of the members who still take a very active part in its welfare.

Model Flying in Ireland.

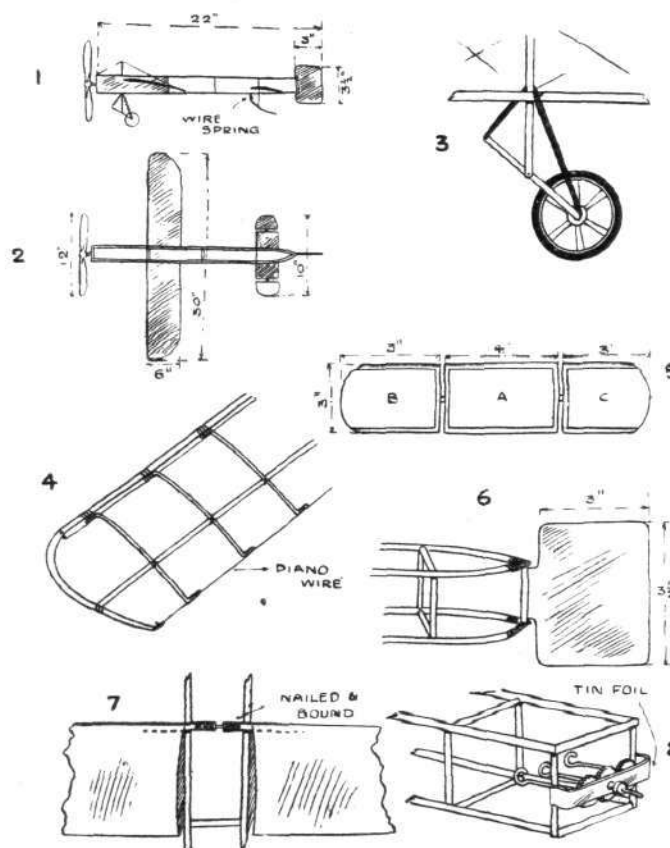
From a communication received from Mr. D. Cameron, Lecarrow, Athlone, Ireland, we regret to learn that in the Emerald Isle aeromodellists are conspicuous chiefly by their absence—mainly owing to lack of Aero Model Clubs. Mr. Cameron, in conjunction with Mr. H. MacNeice, of Dublin, has been endeavouring to form such a club in Dublin, but owing to lack of support the idea fell through. Mr. Cameron claims to hold present Irish records, viz., 450 yards (without the aid of the wind) and 61 secs. duration; also an altitude of 200 ft. [how estimated is not stated].

Mr. Cameron states that he will be pleased to show his models in actual flight to anyone interested, and to answer any questions regarding them, with a view to giving encouragement to any would-be aeromodellists in his district; he would also be very glad to receive communications from anyone interested with a view to forming a club.

The following has been sent us by Mr. E. T. Simpson:—

A Model Blériot for 3s.

In submitting this model to the readers of FLIGHT it should be explained that, if carefully and properly made, it will fly for distances varying from 150 to 200 ft., and, moreover, will rise from



E T SIMPSON

the ground under its own power. The materials required are as follows:—Wood, 1/8 in. by 1/8 in., 24 ft. [this allows for breakages, &c.; cost about 6d.]; fabric, fine calico, varnished with copal varnish, 1 square yard, 3d.; elastic, 1/8 in. square, 6 yards, 6d.; gear-wheels (3) 1/2 in. diameter, 3d.; propeller (1 ft.), 1s. 3d.; wire, &c., 3d.

As regards construction, Fig. 1 shows a dimensional plan of the model. It will be observed that the wings are further back than in

the full-sized prototype; this is because the centre of gravity is much farther to the rear owing to lack of the weight of the engine, &c., in front. Fig. 2 shows the model in elevation, and Fig. 3 the landing chassis. The wheels are fixed on to an arm which is pivoted to a piece fixed to the fuselage rubber sprung— $\frac{3}{8}$ -in. square is very suitable.

The construction of the wings is shown in Fig. 4. The ribs are made of piano wire bent to the desired camber, or else of thin three-ply wood. Each wing is finished off at the ends with piano wire, and the fabric sewn on all round—a method which ensures firm fixing.

In Fig. 5 a plan of the tail plane, &c., is given. A is fixed and B and C act together as elevators. If mounted on a length of aluminium tubing they are more easily movable. A should be slightly cambered.

The rudder is shown in Fig. 6. It consists of a framework of piano-wire covered over with fabric, which is sewn on as before.



THE KITE AND MODEL AEROPLANE ASSOCIATION. OFFICIAL NOTICES.

British Model Records.

Hand-launched	Distance ...	A. E. Woollard	477 yards.
	Duration ...	A. F. Houlberg	89 secs.
Off ground	Distance ...	F. W. Jannaway	84 yards.
	Duration ...	G. Rowlands	30 secs.

Competitions.—On Thursday, July 18th, an altitude competition took place at St. Quintin's Park Horticultural Society's Show. Out of 21 entries 20 competed. The results were: 1st, J. McBirnie, 62 points; 2nd, C. Davies (Twining Co.), 59 points; 3rd, R. F. Stedman (Aerial Engineering Co.), 55 points; 4th, C. Smither, 52-5; 5th, G. Rowlands, 51-5; 6th, F. Soan, 51. The flights of Mr. McBirnie were splendid, in spite of the wind. The prizes were rose bowls. Judges: Messrs. T. W. K. Clarke, F. T. Pringuer, V. E. Johnson, E. W. Twining and W. H. Akehurst.

Kite Competitions.—On July 20th the contest for prizes presented by Messrs. Brooke and Wisthorp was held on Wimbledon Common. A good number competed, including two gentlemen from the Chinese Embassy. After about a quarter of an hour's flying the wind fell and the competition was postponed. But all the competitors entered a scratch contest for launching kites from hand and getting 300 yards line out in shortest time. This was rather interesting, considering there was hardly any wind. Results, Class I.: 1st, H. W. Browne (Catford); 2nd, R. Fox (Kennington); 3rd, C. Smith (Putney). Class II.: 1st, Chim. K. K.; 2nd, H. W. Stewart. The prizes were presented by Messrs.



PROGRESS OF FLIGHT ABOUT THE COUNTRY.

Model Clubs: Name of District only given. In brackets: Secretary's address.

Notes regarding Clubs must reach the Editor of FLIGHT, 44, St. Martin's Lane, London, W.C., by first post Tuesday at latest.

Aero-Models Assoc. (N. Branch) (15, HIGHGATE AVENUE, N.).

SATURDAY's result at Finchley: 1st, M. B. Ross, 55 secs.; 2nd, B. Brown, 54; 3rd, H. E. Fletcher, 41. A. D. Trollope obtained his 2nd class certificate with 173 yards in 23 $\frac{3}{4}$ secs. B. Brown, with 4 ft. 6 in. model, flew 500 yards. July 6th Mr. Fletcher obtained flight of 130 secs. at Purley, model being launched from a hill. On Saturday, flying by H. J. Hindsley (79 yards) and W. E. Waring. The Rt. Hon. the Earl of Ronaldshay, M.P., has consented to become president of the club. To-day, Saturday, first monthly competition at Finchley, 3 till 5 p.m. 1st and 2nd prizes.

Aldershot Aero Club (37, ALEXANDRA ROAD).

Good work during the week by Connott, Fenney, Fowler, Gaffney, Hobbs and O'Reilly. Flying every Wednesday and Sunday at Long Valley.

Birmingham Aero Club (8, FREDERICK ROAD, EDEBASTON).

BOTH splendid audience (40 members and visitors) and model flying at Billesley last Sunday. Mr. Trykle's glider will be erected Saturday (to-day) at aerodrome, Yardley Wood Road.

Blackheath Aero Club (48, HAFTON ROAD, CATFORD, S.E.).

FLYING at Blackheath and Grove Park during week-end; high flying of Mr. Dollittle's model chief event. Mr. A. E. Woollard made flights 60 secs. duration. Saturday and Sunday next, flying Grove Park and Blackheath as usual.

Brighton and District ("KINGSLEIGH," KINGSWAY, HOVE).

MESSRS. BATE (new 14 $\frac{1}{2}$ -oz. rise-off-ground 42 secs.), Knowles, Von Wichmann, (36 secs.), flying Saturday.

Bristol Model Flying (3, ROYAL YORK CRESCENT, CLIFTON).

JULY 17th and 20th, flights in gusty wind by Howse, Lee, Martin and others. Next meeting at Sea Walls, July 27th, at 3 p.m.

Bristol and West of Eng. and Aero Club.

MEETING at club room, Clifton Down Hotel, July 31st, at 8 p.m. Formation of model section. Election of officers and committee, &c. The subscription will be low and the advantages of membership very considerable. All interested should therefore attend this meeting.

Colwyn Bay Model Aero Club (FARNDON, COLWYN BAY).

At club's aerodrome, 17th inst., Mr. Dan Allen flying 1-1-P2 model, Mr. Leslie Bradley, 1-1-P1, against 15-mile wind; Mr. Fred Jackson, 1-1-P1, high circular flights.

Maidenhead (FORD'S COTTAGE, PINKNEYS GREEN, MAIDENHEAD).

FLYING during week by Humphreys, Vevers, Laker and hon. sec. To-day (Saturday) flights for club's record, measured with 100 ft. tape. Record to be published in FLIGHT.

Paddington and Districts (77, SWINDERLY ROAD, WEMBLEY).

RESULT monthly duration competition—1st, silver medal, Mr. A. Cannell, 64 secs.; 2nd, 25. 6d. cash, Mr. C. Dutton, 56 secs. Also flew: Mr. C. Chalfont, 55 secs.; Mr. W. Lane, 52 secs.; Mr. Levy, 34 secs.; W. Evans, 34 secs.; T. Carter, 11 secs. Bronze medal for novices postponed owing to insufficient number of competitors. No club competition to-day (Saturday). Members taking part in Gamage Cup Contest at Greenford.

The ends of the wire are passed through the last upright, which is pivoted fairly loosely to the horizontal pieces, so as to allow the rudder to work smoothly.

Fig. 7 shows the method of fixing the wings to the fuselage. The front pieces of the wings are made longer than necessary, and the overlapping ends are nailed and bound to a horizontal cross-stay. They are braced with florist's wire, and if desired small strainers may be used.

Lastly, in Fig. 8, the elastic motor is shown. It consists of three ropes of the elastic geared together driving a 1-ft. tractor. Each rope has four strands. The elastic is only half the length of the fuselage, and is fastened to a cross-piece between two uprights. Proper gear-wheels should be bought from a model maker, as the ordinary clock ones are too thin.

The weight of this model, if carefully constructed, is 5 or 6 ozs. Several minor adjustments are, of course, necessary before the best results are attained.

Brooke and Wisthorp for 1st and 2nd in Class I and for 1st in Class II. Judges: Messrs. Brooke, Davies and W. H. Akehurst. The contest for the Gamage Cup at Greenford to-day will be closely contested, there being 30 competitors who come from Birmingham, &c., and one competitor comes from Holland.

Model Competition, Welsh Harp, Hendon, August 10th, at 3 o'clock. (Entries close first post August 3rd.) For hydro-aeroplanes rising off and alighting on the water. (Open to the world.) Free to members. Entrance fee to non-members, 3s. Prizes: 1st, £5 ss. (presented by the Royal Aero Club) and certificate of the Association; 2nd, £3 and certificate of the Association (presented by the Association); 3rd, £1 and certificate of the Association (presented by the Association). Tests: A. Rising off water. B. Duration of flight. C. Landing on water after a free flight. Maximum marks 100: 75 for duration, 25 for alighting on the water. Rules: 1. Competitors must be at the judges flag at 2.45. Any competitor not present at that time will be disqualified. 2. Models must not weigh less than $\frac{1}{2}$ lb. 3. Competitors will be allowed to make reasonable repairs at the discretion of the judges. 4. Competitors will not be allowed to replace any part without the permission of the judges. 5. Each competitor is entitled to three trials. 6. All competitors must launch their machines in the same direction. 7. In the event of a competitor's machine not alighting on the water in the course of test A, an additional hand-launched flight will be allowed in test C in each case. If less than 5 starters the 3rd prize will be withheld.

27, Victory Road, Wimbledon.

W. H. AKEHURST, Hon. Sec.



Reigate, Redhill & District ("THE COTTAGE," LADBROKE RD.).

ALL members out week-end. "Self-risers" doing well. Members working hard on machines for coming "Scale-Track" competition. W. Norton 50-60 yards, with fast tractor (self-riser). 38-oz. Nieuport overhauling, after ten weeks' work. Fine exhibition at Flower Show, 20th. Secretary, Mr. H. V. May, has resigned. New secretary elected, Mr. J. W. Burghope, and Mr. W. Norton, treasurer.

St. Mary's Model Club (32, BEECHAM ROAD, PORTSMOUTH).

SATURDAY, E. Restall, flying R.O.G. model, got off in 4 feet, flew 350 yards. Others flying: E. Byrley, C. Restall, S. Webb, V. Collett and J. Haswell. Business meeting August 1st, 8 p.m.

Scottish A.E.S. Model Aero Club (6, MCLELLAN STREET, GOVAN).

ON July 13th, at Winton Drive, Messrs. Langlands flying, best durations being 44, 46, 47 secs. At Paisley Racecourse last Saturday J. C. Balden raised record (for rising-off-ground) for distance with 615 ft. Meeting, Paisley Racecourse, August 3rd, at 3 p.m. Fixture list for next season, starting in September, includes hydro-aeroplane, self-rising and hand-launched competitions. A silver medal has been given for the hydro-aero competition by Col. J. A. Sillars, and for the self-rising competition by Mr. T. Logan. Also two silver medals will be given for the hand-launched competition—one for distance, and one for duration.

Sheffield Model Aero Club (35, PENRHYN ROAD, SHEFFIELD).

AUGUST Bank Holiday Monday. Events: Colver cup and silver medal for self-rising models, and aerial Derby for cash prizes. Conditions: No new parts and only slight repairs allowed. H. Mellor, of 46, Edgedale Road, Sheffield, elected hon. assist. sec. in place of Mr. Pashley. Bronze medal, for best added flights for month, W. R. Blake. Club duration record, Mr. J. P. Worrall, 53 secs. Results, competition, July 13th and 20th: J. P. Worrall, 31 $\frac{1}{2}$ secs.; 31 secs.; W. R. Blake, 25 secs.; 34 $\frac{1}{2}$ secs.; H. Mellor, 20 secs.; 26 secs.; C. E. Worrall, 19 secs.; 29 $\frac{1}{2}$ secs.; L. Wilson, 17 secs.; 10 $\frac{1}{2}$ secs.; E. Elliott, 8 $\frac{1}{2}$ secs.; Birchenough, 16 secs. No competition to-day (Saturday), owing to flying demonstration at Holly Court.

South Norwood (240, HOLMESDALE ROAD).

FLYING during week. Minot, distance 360 yards, duration 35, 30, 28 secs. Streeter, Mann mono.; Hooker, single stick; Daniels and Stemp, 300 yards and 40 secs. Competition July 27th, at 3.30 o'clock, at Davidson Road Fields. First prize, pair Mann propellers, for rise-off-ground. Duration and distance combined. For best tractor flight, a tractor undercarriage.

Windsor Model Flying (10, ALMA ROAD, WINDSOR).

CLUB would like contest with any neighbouring club on Bank Holiday. Flying 2.30 to-day in Home Park.

Worcester Model Aero Club (CORN MARKET, WORCESTER).

BIRMINGHAM contest: Eliminating trials on club ground, Saturday, July 27th, to choose team.

SCHOOL AERO CLUB.

Southgate County School Ae. C. (84, BOWES RD., PALMER'S GREEN).

DEMONSTRATION at school sports on 13th, by Bartlett, Herring, Reed and Brown. Flights of great altitude. In evening Bartlett did about 300 yards.

CORRESPONDENCE.

Correspondents communicating with regard to letters which have appeared in FLIGHT, would much facilitate ready reference by quoting the number of each letter.

Information Wanted.

[1601] Then I am a very eager reader of the first rate Week-newspaper FLIGHT, beg I you kindest print a catalogue in FLIGHT over all the englische school-aeroplanes, there in yours "From the British Flying Grounds" mentioned with, for instance "F 5." ect. In the catalogue must readily printes the presents and previous school-aeroplanes, theres manufactory, engine and horse-power and which school the aeroplane belong to.

Further I beg you every time a new school-aeroplane get, that public it with name, manufactory ect. in FLIGHT.
Kopenhagen. HOLGER LIND.

The War Office Machines.

[1602]. I noticed an article in the *Morning Post* of Tuesday, July 9th, which contained a statement that is hardly correct. In speaking of one of the War Office's latest acquisitions—an Avro, I believe—it says that *unlike* most modern biplanes it is drawn forward, monoplane fashion, by a tractor screw.

Either a misprint or a very incorrect statement; in either case no harm is done in mentioning it.

"At Sea," July 14th.

W.

Side-Slips.

[1603] The general class of accident from side-slips seems to point to one class of machine, that which has very little vertical keel effect level with the main planes.

It seems to me that by having a fuselage which completely fills the "gap," or by having a vertical pin between the planes, the pilot would be considerably helped in righting from a side-slip.

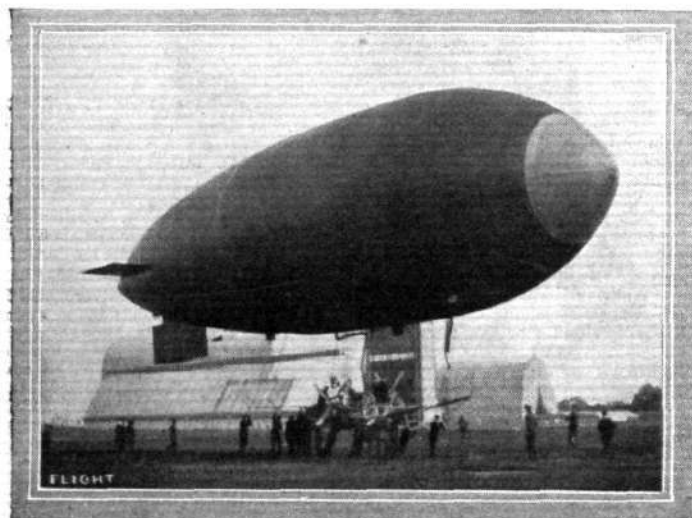
As soon as any side motion commenced to take place, this keel would partially shield the outer plane and reduce its lift. This would greatly assist the pilot's warp, and if he steered inwards with his rudder, it should be easier to bring the machine into an ordinary steep *vol piqué* and so right her than it would be if this keel effect were not obtained.

A monoplane with a deep fuselage, or a biplane with the fuselage filling up the "gap" well, should have an advantage over several of the existing favourite machines in that one respect.

"CRUISER SQUADRON."

"Beta."

[1604] I have just taken a snapshot of the Army airship, the "Beta," in case you may like to insert it in your paper. You will



notice the difference in the front of the airship since its accident. They have now repaired it with a lighter coloured top. I hope to soon get a snapshot of De Havilland; he is flying every morning now on the common.

Farnborough.

P. M.

Automatic versus Inherent Stability.

[1605] With reference to Mr. Ovington's article in FLIGHT, June 29th issue, I should like to bring to Mr. Ovington's notice my British patent for automatic stability, No. 25,856, July 19th,

1911. If he would read my specification he would see that mine is not a "gyroscopic" nor a "rocking-chair" device, nor anything complicated, but an extremely simple device, whereby ailerons are automatically operated by wind pressures. He will also see that the working parts of my control gear are as simple as could possibly be desired, and no more likely to get out of working order than any controls at present in use on existing machines, which controls he has had to depend on as well as his brains and muscles.

If Mr. Ovington should be at all interested in my device, I may state that he, or anyone else interested, can see a large model illustrating same by making an appointment with the manager, "The Eclipse Manufacturing Co.," Kew Foot Road, Richmond, Surrey.
28, Lambermont Place, Antwerp. V. H. MAMMATT.



British-made Chauviers.

It will be interesting to our many readers to learn that an English company, trading under the style of the Integral Propeller Co., Ltd., has been formed to acquire the sole rights of selling and manufacturing the famous mark of Chauviere propellers in the British Isles and her Colonies and Dependencies. Up to the present it will be remembered, Messrs. Geo. W. Goodchild and Partner, of 32, Farringdon Road, have been sole agents for these goods. The new company will shortly be opening offices, showrooms and stores at 307, Euston Road, N.W.



PUBLICATIONS RECEIVED.

Die Internationalen Luftschiffe und Flugdrachen. Compiled by Oberleutnant Paul Neumann. Oldenburg i. Gr.: Gerhard Stalling Verlag. Price 6'50 marks.

Catalogue.

Brooke Industrial Motors. J. W. Brooke and Co., Ltd., Engineers, Adrian Works, Lowestoft, England.



Aeronautical Patents Published.

Applied for in 1911.

Published July 25th, 1912.

- 19,665. N. A. THOMPSON. Safety-strap releases for aeroplanes.
20,728. E. MOTTURA AND A. DEMORRA. Lifting or propelling devices.
22,858. H. J. PENNINGTON-HAYWARD. Signalling devices.

Applied for in 1912.

Published July 25th, 1912.

101. A. D. MACDONALD. Propelling aerial machines.
1,396. G. MEES. Bearings for vertical or inclined propellers.
3,439. J. LAMANT. Aerial route-indicator.

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